



A DISCUSSION OF AGE STATISTICS

BY

ALLYN A. YOUNG

A Thesis Submitted for the Degree of Doctor of Philosophy
in the Department of Economics of the
University of Wisconsin.

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A DISCUSSION OF AGE
STATISTICS



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LETTER OF TRANSMITTAL.

DEPARTMENT OF COMMERCE AND LABOR,

BUREAU OF THE CENSUS,

Washington, D. C., November 1, 1904.

SIR:

I have the honor to transmit herewith Census Bulletin 13, entitled "A Discussion of Age Statistics." It has been prepared under the supervision of Professor Walter F. Willcox, of Cornell University, special agent of the Bureau of the Census, by Allyn A. Young, assistant professor of finance in Dartmouth College. Professor Young was employed for more than a year in the Census Office and much of his time was spent in studying the age statistics of this and other countries and various mathematical and statistical questions growing out of them. As long ago as 1870 the Census Office perceived the importance of the problems with which this bulletin deals, and in that year secured from the actuary of the Treasury Department a careful study of a part of the field. Since that time comparatively little consideration has been given to them in the United States, but in various European countries, as well as in India and Australasia, mathematicians and statisticians have given them attention and published the results. Professor Young writes after a critical analysis of their investigations, and in the present bulletin he has explained and interpreted the age statistics of the Twelfth Census, making the treatment of the subject in this country, it is believed, fully abreast of the best discussions elsewhere. It is hoped that the bulletin will be found to constitute a distinct advance in the interpretation of this difficult subject.

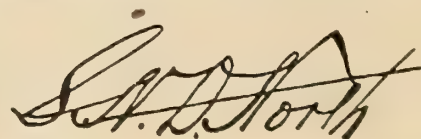
This bulletin comprises four main divisions:

- (1) A description of the way in which the information as to the ages of the population was obtained, together with an account of the age tables that appear in the previously printed results of the Twelfth Census.
- (2) A short discussion of the general significance of age statistics.
- (3) An examination of the amount and nature of the errors in the reported ages.
- (4) A discussion of some of the more important facts which the census reveals with reference to the age constitution of the population. The topics considered are the median and average ages of the population, the distribution of the population into productive and nonproductive age groups, the population in 10-year age periods, the number of children in the population, and the sex distribution of the population in various age groups. The age constitution of the population of continental United States, classified by sex, nativity, and race or color, is studied for the censuses of 1900, 1890, and 1880. For the census of 1900 the discussion is extended to include the ages of the aggregate population of the states and territories, and of the aggregate population living in cities and in rural districts, classified by sex.

An adjustment of the age returns for continental United States, classified by sex, race, and nativity, and a brief bibliography are printed as appendices.

The practical significance of these inquiries is shown by the statement that one of our highest American authorities has sought by an analysis of the census age figures to show that in all recent censuses there had been serious errors in the enumeration of young children, amounting among those under five years of age to at least a million omissions both in 1890 and in 1900. This argument is traversed by Professor Young, who reaches the gratifying conclusion that there is no conclusive evidence of material omissions either in 1890 or 1900.

Very respectfully,



Director.

Hon. VICTOR H. METCALF,

Secretary of Commerce and Labor.

A DISCUSSION OF AGE STATISTICS.

By ALLYN A. YOUNG, Ph. D.

SUMMARY OF RESULTS.

The ages of the population were ascertained more accurately at the census of 1900 than at any previous census of the United States. This improvement was largely due to the addition of an inquiry as to date of birth to the former direct question as to age.

The age returns of the more illiterate classes of the population are less accurate than those of the more intelligent classes. Moreover, the distribution of errors in the age returns is such as to suggest that the census information obtained about the more intelligent classes in districts in which there are large numbers of illiterates is less accurate as a rule than information obtained about the same class of persons in districts where the general average of education is higher. The evident explanation is that the census enumerators held more consistently to high standards of accuracy in those regions where a high average of accuracy was possible.

In the concentration of reported ages on round numbers, understatement of age is, except among persons of advanced years, more common than overstatement. The tendency to report ages as less than the truth is strongest in the negro population, stronger in the foreign born white than in the native white population, and is stronger with females than with males. On account of this prevalent understatement of age, the most accurate quinquennial or decennial age groups for use in the presentation of census results are those in which the first year of the group is a multiple of 5, or of 10.

The overstatement of the ages of children, which may be explained as due to the tendency to denote a child's age by the year of life, rather than by the number of completed years, leads to a large apparent deficiency of children in the first few years of life. This apparent deficiency is more marked in the case of children in the second year of life than for those in their first year—a result due to the fact that the ages of children less than a year old are reported by months.

The number of centenarians in the population is grossly exaggerated in the returns, this exaggeration being especially marked in the case of the more illiterate classes.

The median age of the aggregate population of continental United States (that is, the age which exactly divides the population into halves) is 22.85 years. One hundred years ago it was 15.97; since 1820 it has increased, on the average, by two-thirds of a year a decade. The median age of the population living in cities of over 25,000 inhabitants is about $3\frac{1}{2}$ years greater than that of the population living in smaller cities and rural districts. The median age is high in the North Atlantic and Western states and low in the South Atlantic and South Central states. In the North Central division it approximates that of the country as a whole. The average age (that is, the quotient resulting from dividing the total years lived by the living population) is some years higher than the median age, being, for the aggregate population in 1900, 26.2 years.

About three-fifths of the population of the United States are between 15 and 60 years old—comprising what is sometimes called the “productive” age group. This is a larger proportion of the population than is found in the same age group in most European countries—a fact which is due to the large number of foreign born adults in our population. But only Holland and the Scandinavian countries have so small a proportion of their population at “productive ages” as is found in the native white population of the United States.

Nearly one-fourth of the population are less than 10 years old and over three-sevenths are less than 20. Less than one-seventh have accomplished half the possible hundred years of human life, and only 23 out of every thousand have passed the allotted “three score years and ten.”

The greater average maturity of the urban population, shown by a higher median age, is due to the relatively larger proportion in the period of early middle life. The rural population is relatively more numerous at both extremes of the age table.

Children reported as less than a year old constitute 2.5 per cent of the aggregate population, while children under 5 constitute 12.1 per cent. Both of these proportions are considerably smaller than they were in 1880, and are smaller than the corresponding ratios for most European countries. The proportion of children under 1 in the total population varies from one in 30 in Utah to one in 60 in California. The number of children in the population is relatively least in New England and on the Pacific coast; it is relatively highest in the South and in some of the newer agricultural states of the West and Northwest.

Of the aggregate population 51 per cent are males and 49 per cent are females, but in the age groups of 15 to 19 years, 20 to 24 years, and 80 years and over, there are more women than men. These facts are shown to be in general agreement with the statistics respecting the relative numbers of the sexes born and the death rate of the sexes at various ages. The differences between cities and rural districts, with respect to the proportions of the sexes in the different age groups, are such that they can be only partially explained by the differences between rural and urban death rates; they consequently lead to the conclusion that females predominate among the younger persons migrating from the country to the cities, while males predominate among the migrants who are of middle age.

THE INQUIRY.

The population schedule used by the enumerators at the Twelfth Census contained columns in which were entered, for each person enumerated, the date of birth and the "age at last birthday." The instructions to the enumerators with reference to the mode of entering this information were as follows:

Column 7. Date of birth.—The object of this question is to help in getting the exact age in years of each person enumerated. Many a person who can tell the month and year of his birth will be careless or forgetful in stating the years of his age, and so an error will creep into the census. This danger can not be entirely avoided, but asking the question in two forms will prevent it in many cases.

Enter in the first division of column 7 the name or abbreviation of the month in which the person was born, thus: Jan., Feb., Mar., Apr., May, June, July, Aug., Sept., Oct., Nov., or Dec.

Enter in the second division the year in which the person was born, thus: 1841, 1897, etc.

Column 8. Age at last birthday.—The object of this question is to get the age of each person in completed years, or in the case of a child under one year the age in completed months.

For each person of one year of age or over, enter the age at last birthday in whole years, omitting months and days. For children who, on the first day of June, 1900, were less than one year of age, enter the age in months, or twelfths of a year, thus: $\frac{3}{12}$, $\frac{7}{12}$, $\frac{8}{12}$. For a child less than one month old, enter the age as follows: $\frac{0}{12}$.

Endeavor to ascertain in each case the month and year of birth called for in column 7, but where this is impossible get as nearly as possible the exact years of age. An answer given in round numbers, such as "about 30," "about 45," is likely to be wrong. In such cases endeavor to get the exact age.

The inquiry as to date of birth is an innovation in the practice of the United States census. Prior to 1850 the population was returned as within specified age groups. At the censuses of 1850, 1860, 1870, and 1880 the enumerators were instructed to ascertain the age at the last birthday previous to the taking of the census. In 1890 the inquiry was modified to "age at nearest birthday." At the census of 1900 the older form of inquiry was restored—primarily because it accords with popular usage, but also because it gives results comparable with those of the censuses of other countries. In this connection it should be noted that the census age inquiry shows, not how many persons are at a certain age, but how many are in definite age periods—that is, between n and $n+1$ years old.¹

The tabulations of the results of this inquiry, printed in Twelfth Census, Volume II, are as follows:

TABLE XVI.—Ages of the aggregate population of the mainland of the United States, classified by sex, general nativity, and color.

TABLE XVII.—Ages of the Chinese, Japanese, and Indian population of the United States, classified by sex.

TABLE 1.—Ages of the aggregate population of the United States, classified by sex, general nativity, and color.

TABLE 2.—Ages of the aggregate population, classified by sex, general nativity, and color, by states and territories.

TABLE 3.—Ages by periods of years of the aggregate population, classified by sex, by states and territories.

TABLE 4.—Ages by periods of years of the native white population of native parentage, classified by sex, by states and territories.

TABLE 5.—Ages by periods of years of the native white population of foreign parentage, classified by sex, by states and territories.

TABLE 6.—Ages by periods of years of the foreign white population, classified by sex, by states and territories.

TABLE 7.—Ages by periods of years of the colored population, classified by sex, by states and territories.

TABLE 8.—Ages by periods of years of the negro population, classified by sex, by states and territories.

TABLE 9.—Ages by periods of years of the aggregate population, classified by sex, general nativity, and color, for cities having 25,000 inhabitants or more.

TABLES 10–18.—Persons of school age, by sex, general nativity, and color, by states and territories.

TABLES 19–21.—Persons of school age, by sex, general nativity, and color, for cities having 25,000 inhabitants or more.

TABLE 22.—Males of militia age, by general nativity and color, by states and territories.

TABLE 23.—Males of militia age, by general nativity and color, for cities having 25,000 inhabitants or more.

¹ With reference to the method of obtaining the ages of the population, European census practice is divided. In the majority of the countries, however, the date of birth is asked, while in the others, "age at last birthday" is the form of the question. In the Italian census of 1880 the two inquiries were combined, as in the United States census of 1900. At the St. Petersburg session (1872) of the International Statistical Congress, the following recommendation was passed: "Whenever the degree of education permits, and especially in large cities, age should be indicated by the year and month of birth. When age is expressed in years, completed years should be understood; for children less than a year old, age should be expressed by the number of completed months." (See *Compte Rendu*, Vol. II, page 425.)

In the state census of Massachusetts, and, since 1885, in that of Rhode Island, the age inquiry has been as to the "nearest birthday."

TABLE 24.—Males of voting age, by general nativity and color, by states and territories.

TABLE 25.—Males of voting age, by general nativity and color, for cities having 25,000 inhabitants or more.

TABLE 26.—Persons of school, militia, and voting ages, by sex, general nativity, and color, by counties.

TABLE 27.—Persons of school, militia, and voting ages, by sex, general nativity, and color, for places having 2,500 inhabitants or more.

An analysis of the general age tables presented in Volume II, containing a number of summary and ratio tables, is found on pages xxxv to lxxviii of that volume. Volume III, Table 27, pages 683 to 687, shows the numbers of the aggregate population of the United States at each specified age, per 100,000 of known ages, by sex, color, general nativity, and parent nativity. Table 28, pages 689 to 695 of the same volume, shows the numbers of the aggregate, the white, and the colored population in each age group, per 100,000 of known ages, by states and territories.

The age tables contained in the Abstract of the Twelfth Census will be found especially useful for the purpose of supplementing those contained in the present discussion, as they are based on a different system of grouping.

In addition to the tables which relate primarily to age, there are tables which give other classifications of certain age groups. In the tables relating primarily to citizenship and years in the United States, which are to be found in Volume I, pages 907 to 1006, males of voting age are classified by general nativity, parentage, color, and literacy, and foreign born males of voting age by citizenship, country of birth, number of years in the United States, and ability to speak English, for states and territories and for cities having 25,000 inhabitants or more; and males of voting age by general nativity, color, citizenship, and literacy, for counties. A more or less detailed classification by ages has been introduced into the general tables on conjugal condition, school attendance, illiteracy, ability to speak English, and occupations. These tables are printed either in Volume II or in the special report on occupations. In Volume III, pages xlvi and xlvii, there is a table showing, for the registration area and its subdivisions, the white population in each of eight age groups, classified by birthplaces of mothers. In the same volume, pages 285 to 555, is a table which shows the number of children under 1 year of age and under 5 years of age, classified by sex, general nativity, and color, for each state and registration city, and for the groups, counties, and local divisions of registration states.

SIGNIFICANCE OF AGE STATISTICS.

For the purpose of a scientific study of the population the classification by age is only less important and fundamental than that based on sex. Not only does this classification afford information concerning the generation which is at present doing the world's work, but it also makes it possible to form some conclusions about

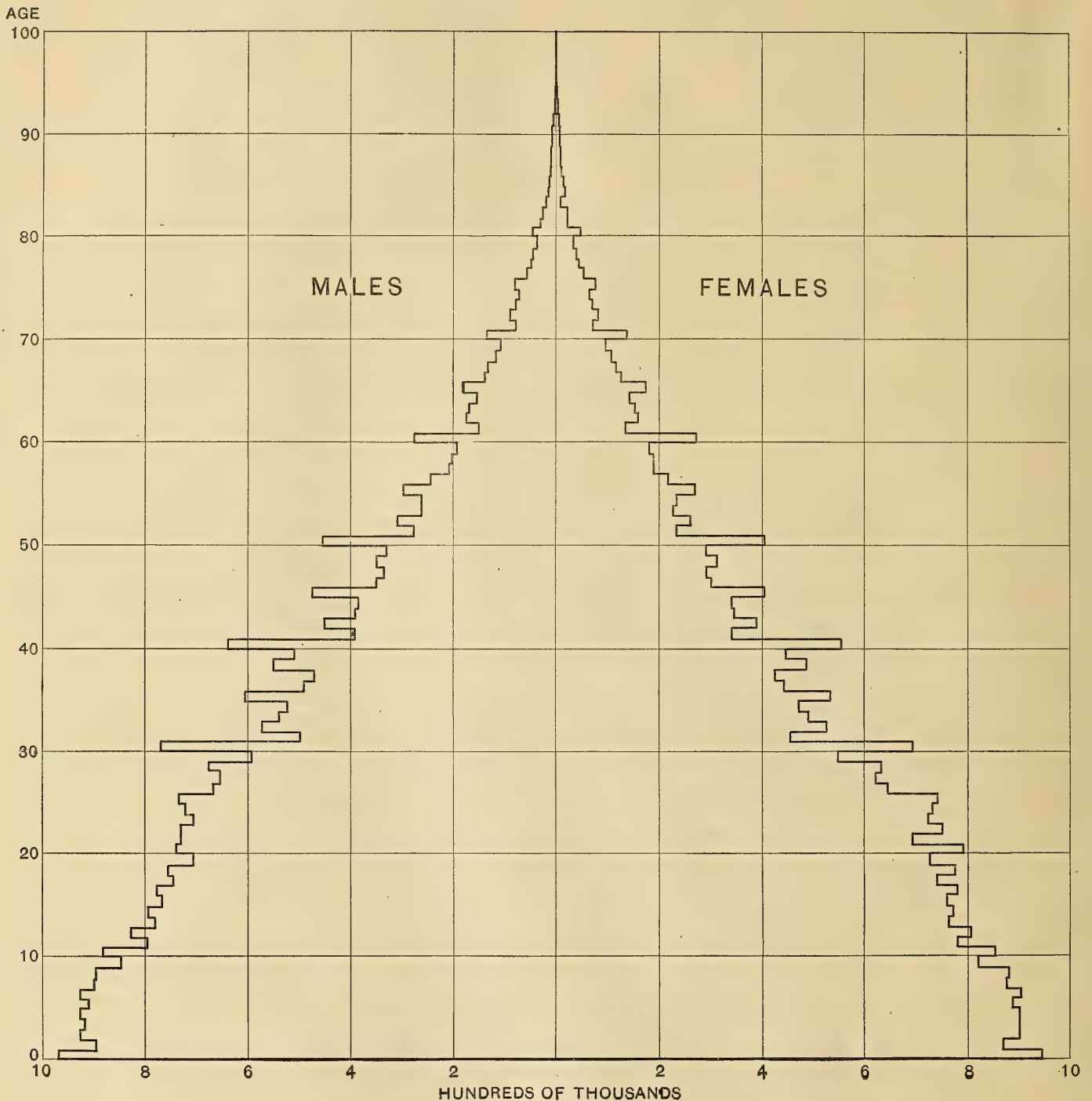
the generation next to enter on its estate. It is scarcely correct, however, to speak of "generations" in the sense in which the word is ordinarily used, because the population is being constantly recruited by births and depleted by deaths.

Professor von Mayr has compared the population of a country to an endless rope made up of a vast number of individual threads.¹ If the rope be cut at any given point, the threads thus exposed to view will vary from those so short that they can scarcely be measured to those of a maximum length. This is the view presented by the census age tables—a view which emphasizes the ever-changing character of the population.

The classification of a population by age makes it possible to measure its economic and military strength. A population containing a large proportion of aged persons and children may be less efficient than a smaller population in which a larger proportion are of productive age. Moreover, the proportion of young children in the population is at least as valuable an index of social conditions as is the birth rate, and is of special utility in the United States, where accurate records of the births are kept in few localities. The chief usefulness of age statistics, however, is found in the increased value which they give to the results of other census inquiries. The combination of the age and sex classifications reveals the number of voters and the number of potential fighting men. It is impossible to compare different classes of the population accurately with reference to such facts as crime, pauperism, literacy, number engaged in productive occupations, mortality rates, etc., without taking into account the differences in their age constitution; for example, the mere fact that death rates are higher in cities than in rural districts is without special significance until the differences in the age constitutions of the two regions are taken into account.

The age composition of a population on a given date may be represented graphically by a diagram sometimes called the age pyramid, but which might more accurately be called the age triangle. The example given on page 10 illustrates in this way the age composition of the population of the United States at the date of the Twelfth Census. The vertical line running through the apex of the triangle is divided into 100 equal parts, one for each year of life. From this line horizontal distances are measured representing, according to the indicated scale, the number of persons reported at the specified age. Distances to the left represent males, to the right females, and the horizontal distance between the sides of the triangle at each point the total population of the specified age. Each complete square within the triangle thus represents 2,000,000 people and the entire area of the triangle represents the total population of the United States of known age, classified by sex and age.

¹ Statistik und Gesellschaftslehre, Vol. II, page 73.



The age constitution of the population is affected by three factors—births, deaths, and migration. If a country were so isolated as to be affected neither by immigration nor by emigration, if the number of births in each year were the same as in the year preceding, if the number of deaths were uniform for each successive year and for each year of age, and if the conditions for males and females were identical, the age constitution of the population would be of the simplest and most regular form. If a figure constructed on the same principle as this diagram were drawn to represent such a population, it would take the form of an isosceles triangle. But a condition of this kind is purely

imaginary, and is never realized in actual conditions.

First and most fundamental in causing deviations from this theoretical distribution is the fact that neither the number of deaths nor the death rate is constant for all ages. The death rate is very high in the first year of life, decreases rapidly through about the first twelve years, then increases gradually until the period of old age is reached, when it increases with rapid acceleration. If this factor be taken into account—the assumption still being that the population is affected to only a slight extent by migration, and that the number of births in successive years is fairly constant—the graphic representation of the age constitution will be bell-

shaped, the sides of the figure changing from concave to convex in the period of advanced age. These are the conditions represented in the ordinary life table, which, taking as a basis a number of persons beginning life at the same time, shows what would be the number of survivors at each age under prevailing conditions. Such a population would be called a "normal stationary population." The population of France approaches this condition more nearly than that of any other country for which statistics are available.

But in most countries the annual number of births is not a constant factor. If the birth rate is constant, an increasing population tends to perpetuate its increase through the continued augmentation of the number of births; and even with a diminishing birth rate the absolute number of births from an increasing population may be increasing. This condition, which would be shown in the graphic representation by a relatively broader base of the "age pyramid," is prevalent in most European countries, but more noticeably in the United States.

Factors of less importance are the changes in birth and death rates, due to varying economic, social, and climatic conditions. These give to the diagram an irregular form, but their effects on the age constitution are less noticeable in a large and heterogeneous population like that of the United States than in smaller populations.

In addition to these primary factors of birth and death rates, there is one secondary factor, migration, which has an important influence upon the distribution of ages. In the decade 1890 to 1900, 75 per cent of the immigrants to the United States were between the ages of 15 and 40 years, 16 per cent were less than 15, and only 9 per cent were more than 40 years old. In a country where the excess of immigration over emigration is as large as it is in the United States, this preponderance among the immigrants of persons between 15 and 40 years of age leads to a marked widening of the age pyramid at and immediately above these ages. This effect is of course strikingly apparent in the age constitution of our foreign born population.¹ Internal migration has a corresponding effect on the age constitution of particular areas, and thus leads to marked differences between cities and rural districts in the distribution of ages.

¹Twelfth Census, Vol. II, Plate 2.

Age may be defined as the sum of time lived since birth. Modern census practice follows ordinary usage in stating the ages of children less than one year old in months and the ages of all other persons in years.

A casual inspection of the tables in which the ages are given by single years will show that while the number reported decreases as the age increases, this decrease is far from constant; indeed, the number reported as of a given age is not always smaller than the number reported at the preceding age.² The facts are shown even more clearly in the diagram. It is not probable that in the age constitution of the actual population the principle of continuity is so far violated that the age series could not be represented by a fairly smooth curve; indeed, experience has shown that the greater the accuracy of a census, arising from special care in the enumeration, or from the intelligence of the persons enumerated, the more nearly does the curve representing the age returns approach smoothness of form. Most of the irregularities in the curve representing the ages actually reported take the form of angular deflections, corresponding to abnormal values of single terms. Consideration of the factors which influence the age constitution of the population gives no warrant for supposing that these irregularities correspond to the facts. It is certain, of course, that changes in birth and death rates, as well as variations in the amount and direction of migration, must leave their marks in the form of certain irregularities; but these irregularities would in most cases be spread over a term of several years, and in the curve representing the age series they would take the form of flexures covering a period of several terms in the series. It follows that the irregularities in the age tables represent, for the most part, erroneous information. A knowledge of the nature and amount of the errors is a prerequisite to the intelligent use of census age statistics.

Before entering upon a discussion of the particular forms which these errors take, it will be well to get some idea of the total amount of error. Comparisons with previous censuses, with reference to this point, will make it possible to ascertain the effect of the addition of the inquiry as to date of birth to the inquiry as to age.

²Twelfth Census, Vol. II, Table xvi.

If the number returned at each year of age (except, of course, the number reported as "under 1") be subtracted from the number returned at the next lower year of age, the remainders will be the "first differences" of the age series. If these first differences be added, with due regard to plus and minus signs, the sum will, of course, be equal to the difference between the number reported as less than 1 year old and the number classified as "100 and over." But if the signs be disregarded in the addition, the sum of the differences will be equal to the difference between the numbers reported at the first and at the last age, plus twice the sum of the minus differences. It may be assumed that in a series representing the true ages of the population the minus differences are zero, or approximately zero, and the sum of all the differences would therefore be the same whether plus and minus signs were regarded or not. The difference between the sum of the differences in the reported and in the actual ages would be, therefore, approximately twice the sum of the minus

differences. It follows that the sum of the minus differences may be properly regarded as a measure of the inaccuracy of the reported ages. It will be noticed that in this method no assumption is made about the true nature of the age series, except that the minus differences are approximately zero. Even if this approximation is not very close, the general validity of the method is not affected. For the foreign born element of the population, however, this method can not be used, as the fact that there are comparatively few foreign born children among the population produces an unduly large number of minus differences. Table 1 shows these differences computed, as described, for the other classes of the population, at the Twelfth Census and the two censuses immediately preceding; it shows, also, for each of these population classes the total number of persons less than 100 years of age and the per cent which the sum of the minus differences forms of the total number of persons less than 100 years of age.

TABLE 1.—SUM OF THE MINUS DIFFERENCES IN THE AGE RETURNS OF THE AGGREGATE POPULATION AND OF THE TOTAL NATIVE, THE NATIVE WHITE BY PARENTAGE, THE TOTAL COLORED, AND THE NEGRO POPULATION, AND PER CENT THAT SUM FORMS OF PERSONS 0 TO 99 YEARS OF AGE, CLASSIFIED BY SEX, FOR CONTINENTAL UNITED STATES: 1900, 1890, AND 1880.

A.—NUMBER OF PERSONS 0 TO 99 YEARS OF AGE.

CLASS OF POPULATION.	1900			1890			1880		
	Both sexes.	Males.	Females.	Both sexes.	Males.	Females.	Both sexes.	Males.	Females.
Aggregate.....	75,790,487	38,687,754	37,102,733	62,456,104	31,962,953	30,493,151	50,151,767	25,517,411	24,634,356
Native born.....	65,476,691	33,076,003	32,400,688	45,764,845	23,190,224	22,574,621	36,842,699	18,609,028	18,233,671
Native white.....	56,474,761	28,604,608	27,870,153	34,269,945	17,413,505	16,856,440	28,202,907	14,109,113	14,109,113
Native white—native parents.....	40,836,938	20,772,888	20,064,050	11,494,900	5,776,719	5,718,181	6,749,762	3,386,904	3,362,848
Native white—foreign parents.....	15,637,823	7,831,720	7,806,103	7,594,409	3,837,680	3,756,729			
Total colored.....	9,127,180	4,584,175	4,543,005						
Negro.....	8,782,630	4,360,504	4,422,126						

B.—SUM OF MINUS DIFFERENCES IN REPORTED AGES.

CLASS OF POPULATION.	1900			1890			1880		
	Both sexes.	Males.	Females.	Both sexes.	Males.	Females.	Both sexes.	Males.	Females.
Aggregate.....	2,552,243	1,281,389	1,274,640	4,683,588	2,359,595	2,484,674	4,133,157	1,974,593	2,186,201
Native born.....	1,670,940	801,180	889,843	2,458,985	1,262,428	1,334,864	1,664,318	789,676	923,770
Native white.....	810,987	419,689	415,531	1,970,051	1,019,113	1,053,393			
Native white—native parents.....	627,525	326,473	321,344	503,320	251,896	282,907			
Native white—foreign parents.....	216,247	107,101	112,894	1,093,663	507,550	591,290	1,264,458	574,203	693,764
Total colored.....	956,780	446,631	511,056						
Negro.....	912,977	418,263	496,045						

C.—PER CENT THAT THE SUM OF MINUS DIFFERENCES FORMS OF PERSONS 0 TO 99 YEARS OF AGE, OR COEFFICIENT OF ERROR.

CLASS OF POPULATION.	1900			1890			1880		
	Both sexes.	Males.	Females.	Both sexes.	Males.	Females.	Both sexes.	Males.	Females.
Aggregate.....	3.4	3.3	3.4	7.5	7.4	8.1	8.2	7.7	8.9
Native born.....	2.6	2.4	2.7						
Native white.....	1.4	1.5	1.5	5.4	5.4	5.9	4.5	4.2	5.1
Native white—native parents.....	1.5	1.6	1.6	5.7	5.9	6.2			
Native white—foreign parents.....	1.4	1.4	1.4	4.4	4.4	4.9			
Total colored.....	10.5	9.7	11.2	14.4	13.2	15.7	18.7	17.0	20.6
Negro.....	10.4	9.6	11.2						

The absolute sums of the differences are in themselves without special significance, on account of the varying sizes of the population classes for which they have been computed. The per cents indicate the relative degrees of inaccuracy in the age returns of the different classes, and may be called the "coefficients of error." Considering first the results for 1900, it appears that the smallest coefficient of error is found in the returns for the native white population of foreign parents, while the largest is found in the returns for the negro population. In the returns for the latter class the coefficient for females is considerably larger than that for males, the excess being reflected in the results for the aggregate population.

A comparison of the results for the three censuses shows that there has been a general gain in accuracy since 1880; for the aggregate population of both sexes the coefficient of error was 8.2 per cent in 1880, 7.5 per cent in 1890, and 3.4 per cent in 1900. The marked diminution in the coefficient of error in 1900 as compared with 1890 indicates that the inquiry as to date of birth had a very important influence on the accuracy of the results. For all classes of the population the returns for 1900 indicate increased accuracy as compared with previous

censuses. It will be noted that in 1880 and 1890 the age returns of females were, for all classes of the population, more erroneous than those of males. The addition of the inquiry as to date of birth seems to have had a more marked effect on the age returns of females than on those of males. This is probably due to the fact that a larger proportion of women than of men were seen directly by the enumerators in their house-to-house visitation. The errors in the age returns of males are probably due, in larger measure than those of females, to ignorance of the true age of the person enumerated on the part of those who furnished the information to the enumerator. Naturally this kind of error could not be eliminated by any amount of care in the manner of asking the question. In the case of the native white population of native parents the coefficient of error in 1900 was less for the total population than for either the male or the female population. This seeming paradox is due to the neutralization of a certain amount of understatement of age on the part of one sex by overstatement on the part of the other.

Table 2 shows the minus differences and per cents in 1900 for the five main geographic divisions.

TABLE 2.—SUM OF THE MINUS DIFFERENCES IN REPORTED AGES OF THE POPULATION AND PER CENT THAT SUM FORMS OF PERSONS 0 TO 99 YEARS OF AGE, CLASSIFIED BY PARENT NATIVITY AND RACE, FOR MAIN GEOGRAPHIC DIVISIONS: 1900.

CLASS OF POPULATION.	PERSONS 0 TO 99 YEARS OF AGE: 1900.					SUM OF THE MINUS DIFFERENCES IN REPORTED AGES OF THE POPULATION: 1900.					PER CENT THAT SUM OF MINUS DIFFERENCES FORMS OF PERSONS 0 TO 99 YEARS OF AGE: 1900.				
	North Atlantic division.	South Atlantic division.	North Central division.	South Central division.	Western division.	North Atlantic division.	South Atlantic division.	North Central division.	South Central division.	Western division.	North Atlantic division.	South Atlantic division.	North Central division.	South Central division.	Western division.
Native white.....	15,870,165	6,485,072	21,583,207	9,441,893	3,094,424	260,665	155,963	230,536	167,945	57,929	1.6	2.4	1.1	1.8	1.9
Native white—native parents.....	9,891,395	6,095,498	14,111,559	8,735,056	2,003,430	171,499	147,557	147,655	154,512	43,145	1.7	2.4	1.0	1.8	2.2
Native white—foreign parents.....	5,978,770	389,574	7,471,648	706,837	1,090,994	98,682	9,819	92,276	16,789	16,331	1.7	2.5	1.2	2.4	1.5
Negro.....	382,635	3,712,504	490,974	4,166,696	29,821	29,945	425,000	32,182	428,496	2,292	7.8	11.4	6.6	10.3	7.7

The coefficients of error shown in Table 2 confirm the inference drawn from Table 1, that the reports of the ages of the colored population are especially untrustworthy. In three of the five main geographic divisions the accuracy of the returns for the native white population of native parents is about the same as that of the returns for the native white population of foreign parents. In the South Central division, however, the returns for the native white population of foreign parents are distinctly less accurate than those for the native white population of native parents, while in the Western division this condition is reversed.

The facts shown in Table 2 with reference to the geographic distribution of errors in the age returns are worthy of note. It will be observed that if the five geographic divisions were ranked in the order of decreasing size of the coefficient of error for the native white population of native and of foreign parents, and for the negro population, the order of rank would be South Atlantic, South Central, North Atlantic, West-

ern, North Central, except that for the native white population of native parents the coefficient of error in the Western division would advance from fourth to second. For each class the greatest amount of inaccuracy is found in the South Atlantic division and the least amount in the North Central division.

A comparison of the coefficients of error shown in Tables 1 and 2 with the census statistics of illiteracy shows a general correlation between the two sets of facts.¹ Illiteracy, like the errors in reported ages, is greatest among the negro population and least among the native white population of foreign parents. Moreover, for the total population, illiteracy, like errors in age returns, is at its maximum in the South Atlantic division and at its minimum in the North Central division. But this is as far as the correlation can be carried, for the geographic distribution of illiteracy is by

¹For the per cent illiterate in the population of the main geographic divisions, see Twelfth Census Abstract, Table 57.

no means so strikingly uniform for the different population classes as is the geographic distribution of the errors in the age returns. It would seem, therefore, that the presence of a large illiterate population in certain parts of the country has lowered the general accuracy of the returns from those regions. Despairing of getting any but inaccurate returns from a large proportion of the persons in their districts, the enumerators in the more illiterate regions have been less painstaking in their efforts to secure accurate returns from the rest of the population.

By far the most noticeable errors in the age returns are due to the tendency of the persons enumerated to give their ages in round numbers. Multiples of five—especially the even numbers—are the chief centers of

concentration. This tendency is not of great importance below the year 20, and the concentration on that year is, in the case of males, offset by an easily explained concentration on the year 21. Table 3 furnishes a measure of the amount of this concentration on multiples of 5. It is assumed that in the actual population the number of persons aged 25, 30, 35, 40, 45, 50, 55, and 60 years is approximately one-fifth of the total number between 23 and 62 years of age, inclusive—an assumption which corresponds with the facts closely enough to give all necessary accuracy to the method. The per cent that the number reported at multiples of 5 forms of one-fifth of the total number in the age group 23 to 62 indicates the degree of concentration on round numbers.

TABLE 3.—MEASURE OF CONCENTRATION ON MULTIPLES OF 5 IN THE REPORTED AGES OF ADULTS IN SPECIFIED CLASSES OF THE POPULATION OF CONTINENTAL UNITED STATES: 1900, 1890, AND 1880.

CLASS OF POPULATION.	TOTAL NUMBER OF PERSONS AGED 25, 30, 35, 40, 45, 50, 55, AND 60 YEARS.			ONE-FIFTH OF TOTAL NUMBER OF PERSONS AGED 23 TO 62 YEARS, INCLUSIVE.			PER CENT THAT NUMBER RE- PORTED AT MULTIPLES OF 5 FORMS OF ONE-FIFTH OF TOTAL NUMBER AGED 23 TO 62 YEARS, INCLUSIVE.		
	1900	1890	1880	1900	1890	1880	1900	1890	1880
Aggregate	8,136,101	7,079,822	6,026,970	6,792,831	5,390,228	4,161,802	119.8	131.3	144.8
Native white	5,061,174	4,215,705	3,308,893	4,587,382	3,529,587	2,674,693	110.3	119.4	123.7
Foreign white	1,888,584	1,850,037	1,612,472	1,490,345	1,299,775	992,791	126.7	142.3	162.4
Colored	1,186,343	1,014,080	1,105,605	715,104	560,866	494,318	165.9	180.8	223.7

The results presented in Table 3 show that of the three classes of the population considered the tendency to concentrate on round numbers is strongest in the colored population, while the native white population is least affected by it. For all classes of the population there is a marked improvement in the returns for 1900 as compared with those for 1890, and there was a corresponding improvement in the returns for 1890 as compared with those for 1880. A seeming anomaly lies in the fact that while the returns for 1890 are but little improved in general accuracy over those for 1880, as is evidenced by Table 1, yet in the matter of concentration on multiples of 5 the improvement in accuracy over the preceding census was quite as marked in 1890 as in 1900. The explanation is found in the fact that in 1890 a special effort was made to lessen this particular form of error. The instructions to enumerators on this point were full and explicit and evidently were responsible for a very material decrease in the concentration.¹ The further decrease in the amount of this inaccuracy which is shown in the census of 1900 is undoubtedly due to the addition of the inquiry as to date of birth. But it is evident that this particular form of error was not reduced so materially as were other inaccuracies in the age returns. In those European censuses in which the ages are obtained by ascer-

taining the date of birth, it is found that there is a tendency to concentrate on those calendar years which are multiples of 5.² This tendency was undoubtedly operative in the United States in 1900, and on account of the census year being an even multiple of 5 the tendency to concentrate on certain ages and the tendency to concentrate on certain years of birth coincided—that is, so far as all persons born in the first five months of the year are concerned. It seems probable that as high a degree of accuracy would have been obtained if the inquiry as to “age at last birthday” had been omitted.

Unknown ages.—Table 4 shows the proportions of the different classes of the population whose ages were returned as unknown.

TABLE 4.—Number of persons of unknown ages in 100,000 of all ages, classified by sex, for continental United States: 1900 and 1890.

CLASS OF POPULATION.	1900			1890		
	Both sexes.	Males.	Females.	Both sexes.	Males.	Females.
Aggregate ..	264	328	197	259	323	192
Native white	212	285	138	210	275	144
Foreign white ...	244	293	186	270	336	192
Colored	605	641	567	537	593	480

The proportion of persons of unknown age is largest for the colored and smallest for the native white popu-

¹ Instructions to Enumerators, Eleventh Census, reprinted in Wright and Hunt, History and Growth of the United States Census, pages 187 and 188. For the corresponding instructions for the Tenth Census, see Wright and Hunt, page 171.

² G. von Mayr, Statistik und Gesellschaftslehre, Vol. II, page 75.

lation—a statement that holds true for each sex and each census. For all classes of the population this proportion is smaller for females than for males. This is undoubtedly due to the fact that a larger proportion of women than of men were seen personally by the enumerators. The excess of the proportion of unknown ages among the colored and the native white population in 1900 over the same proportion for 1890 indicates that the inquiry as to date of birth lessened the number of mere guesses that were accepted by the enumerators as statements of age. For the foreign white population, however, this proportion decreased in 1900 as compared with 1890. This decrease may be due to the fact that on account of the excess of immigration in the decade 1880 to 1890 over the immigration for the ensuing decade, the average foreign born person in 1900 had been in this country longer and was, consequently, better qualified to understand the enumerator's questions and to answer them intelligently.

Age groups.—Combinations of the age classification by single years with the results of other census inquiries are impracticable in most instances. In the majority of cases in which the census differentiates economic and social classes by age, recourse must be had to age groups. From the standpoint of accuracy a classification by groups is preferable to one by single years, and because of the excessive concentration of reported ages on years which are multiples of 5 a quinquennial grouping is especially accurate. This form of group has the added merit of convenience. In the census practice of all countries it is customary to make use of 5-year or of 10-year age groups. The usual form of quinquennial group is the one used in the United States census. In this method the five lowest ages of the table are placed in the first group, the next five ages in the second group, and so on to the end of the table. This form of grouping has been criticised by several statisticians on the ground that each group begins with a multiple of 5; that is, with a year of concentration.¹

The critics recommend a quinquennial group in which the year of concentration will be in the middle of the group. It is for this reason that the English census defends the use of 10-year groups in which the multiple of 10 comes in the middle of the period,² and that the American census has followed the same practice in its mortality statistics.

The accuracy of an age group depends upon the ratio between the number which it includes and the number of persons whose true ages would be included within the same group. In other words, the choice of age groups will depend upon the manner in which concentration takes place. The most accurate form of age group, then, is one which includes with each year of concentra-

tion the years from which this concentration is chiefly drawn. If the field of attraction of each age at which concentration occurs does not extend beyond the limits of one age group, the fact of concentration will not affect the accuracy of the groups.

If the tendency to understate ages is materially greater than the tendency to overstate them, the form of group used in the United States census may be more accurate than the one in which the year of concentration is in the middle of the group. The fact that concentration is greater on multiples of 10 than on odd multiples of 5 makes it possible to determine definitely which form of group is the more accurate. The greater the concentration the greater, of course, will be the depletion in the years from which that concentration is drawn. If the quinquennial groups are so formed that the fields of attraction of the years of concentration extend beyond the limits of the several groups, a year which is a multiple of 10 will draw relatively more from the adjacent groups than will a year which is an odd multiple of 5. This will result in making the groups alternately too large and too small. The excess of the number of reported ages in the groups containing years that are multiples of 10 over the number in groups containing years that are odd multiples of 5 may accordingly be used as a measure of the relative inaccuracy of a system of age grouping. Of two series of quinquennial age groupings of the same returns, the one in which the alternate excess and deficiency in the size of the successive groups is less marked will be the more accurate. Table 5 illustrates the way in which this principle may be applied, and also shows the relations between the successive age groups in a "normal stationary population."

TABLE 5.—Per cent that number in each specified age group forms of the arithmetic mean of the numbers in the two adjacent groups.

[Farr's English Life Table, No. 3, P₁ column.]

AGE GROUP.	Number in group.	Arithmetic mean of numbers in preceding and following groups.	Percent.
0 to 4 years.....	4,004,216		.....
5 to 9 years.....	3,584,556	3,735,214	96.0
10 to 14 years.....	3,466,213	3,478,395	99.1
15 to 19 years.....	3,372,234	3,354,503	100.5
20 to 24 years.....	3,242,793	3,233,627	100.3
25 to 29 years.....	3,095,021	3,091,354	100.1
30 to 34 years.....	2,939,916	2,936,140	100.1
35 to 39 years.....	2,777,260	2,772,386	100.2
40 to 44 years.....	2,604,856	2,598,323	100.3
45 to 49 years.....	2,419,396	2,410,525	100.4
50 to 54 years.....	2,216,195	2,200,200	100.7
55 to 59 years.....	1,981,004	1,958,878	101.1
60 to 64 years.....	1,701,562	1,676,251	101.5
65 to 69 years.....	1,371,499	1,349,900	101.6
70 to 74 years.....	998,238	997,009	100.1
75 to 79 years.....	622,519	654,815	95.1
80 to 84 years.....	311,393	369,002	84.4
85 to 89 years.....	115,484	170,194	67.9
90 to 94 years.....	28,996	59,965	48.4
95 to 99 years.....	4,445		

It will be noted that during the periods of youth and middle age, when the death rate is fairly constant, the number in each age group is only slightly greater than the arithmetic mean of the numbers in the two adjacent

¹ Bertillon, *Cours élémentaire de Statistique*, page 52, note; Mayo-Smith, *Statistics and Sociology*, pages 59 and 60; Holmes, in "The Federal Census," *Publications of the American Economic Association*, New Series, No. 2, pages 57 and 58.

² Census of England and Wales, 1891, *General Report*, page 27.

groups. It can not be supposed that in the numerical relations of the corresponding age groups of an actual population the regularity would be so great. However, uniform or systematic irregularities in the returns for different classes of the population may be safely charged to errors in the returns, rather than to actual peculiarities in the age constitution of the population.

Table 6 shows the results obtained by applying the above process to the age reports of the aggregate population of continental United States. Three methods of grouping have been used; in the first the census plan is followed, a year of concentration being placed at the beginning of each group; in the second the year of concentration is in the middle of the group; and in the third it is placed at the end. For convenience these methods will be called Method I, Method II, and Method III, respectively. The expressions obtained for the relative numerical values of groups containing multiples of 10 and of groups containing odd multiples of 5 are placed in separate columns, and the average of each of these two classes of per cents is shown for each method of grouping. Only those multiples of 5 from 20 to 65 are considered, because on multiples below 20 there is no perceptible concentration, and at advanced ages the rapid decrease of the population has the effect (shown in Table 5) of producing a marked diminution in the per cents.

TABLE 6.—*Per cent that the aggregate population in quinquennial age groups containing specified years of concentration forms of the arithmetic mean of the numbers in the two adjacent groups, by three methods of grouping, for continental United States: 1900.*

YEAR OF CONCENTRATION.	Method I.		Method II.		Method III.	
20.....	104.1		101.1		99.7	
25.....		101.3		104.0		103.5
30.....	96.7		100.0		104.2	
35.....		101.3		93.0		90.6
40.....	100.9		110.5		109.7	
45.....		96.1		90.9		92.9
50.....	103.9		106.6		104.4	
55.....		93.4		93.9		94.2
60.....	102.0		99.1		103.1	
65.....		97.4		100.4		93.7
Average.....	101.5	97.9	103.5	96.4	104.2	95.0

The difference between the average value of the per cents for the groups containing even multiples of 5 and for groups containing odd multiples of 5 is, by Method I, 3.6; by Method II, 7.1; by Method III, 9.2. These differences represent the relative inaccuracies of the different methods of grouping, and indicate that Method I is preferable to either of the other two methods. Table 7 shows the corresponding differences for various classes of the population, classified by sex.

TABLE 7.—*Excess of the average per cent that the numbers in quinquennial groups containing even multiples of 5 forms of the arithmetic mean of the numbers in the two adjacent groups, over the corresponding per cent for groups containing odd multiples of 5, for the aggregate, native white, foreign white, and negro population, classified by sex, for continental United States: 1900.*

CLASS OF POPULATION.	Method I.	Method II.	Method III.
Aggregate population:			
Both sexes.....	3.6	7.1	9.2
Males.....	3.6	6.8	8.2
Females.....	3.6	7.2	9.4
Native white population:			
Both sexes.....	2.9	4.3	4.9
Males.....	3.1	4.4	4.1
Females.....	2.6	4.2	5.9
Foreign white population:			
Both sexes.....	3.4	8.3	11.8
Males.....	3.1	7.7	11.0
Females.....	3.6	8.8	12.7
Negro population:			
Both sexes.....	9.9	23.7	32.4
Males.....	7.5	19.9	17.7
Females.....	12.5	28.5	37.7

The sizes of the differences shown in Table 7 indicate the extent to which preference is given in the age reports to multiples of 10 rather than to odd multiples of 5. This preference is most marked with the negro population, and is more marked with the foreign white than with the native white population. It is more strongly marked for females than for males. But the most important fact brought out by Table 7, as by Table 6, is that Method I, in which the year of concentration is the lowest year in the group, is the most accurate method of grouping; while Method III, in which the year of special concentration is the highest year in the group, is the least accurate. This indicates that the tendency to understate ages is much stronger than the tendency to overstate them. The tendency to understatement of age is strongest in the negro population; stronger in the foreign white than in the native white population; and stronger with females than with males. It is undoubtedly true, although the preceding tables do not show it, that persons of advanced age in the United States, as elsewhere, are liable to overstate their ages. Further discussion of this point will be found in the section on centenarians:

Children's ages.—An examination of the graphic representation of the reported ages does not reveal, for most of the ages below 20, any special form of error, beyond the tendency to prefer even numbers to odd ones, which is noticeable throughout the age table. But it will be seen that there is an apparent deficiency in the number of children in their second year of life—reported in the census tables as “1 year old.” Table 8 shows the number of children at each year of age

under 5, and the per cent which that number forms of the total number under 5, for the censuses of 1900, 1890, and 1880.

TABLE 8.—Aggregate population at each year of age under 5, and per cent that number at each age forms of the total under 5, for continental United States: 1900, 1890, and 1880.

AGE.	1900		1890		1880	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Under 1 year	1,916,892	20.9	1,566,734	20.5	1,447,983	29.9
1 year.....	1,768,078	19.3	1,077,008	14.1	1,256,956	18.2
2 years.....	1,830,332	19.9	1,729,817	22.7	1,427,086	20.6
3 years.....	1,824,312	19.9	1,631,988	21.4	1,381,274	20.0
4 years.....	1,831,014	20.0	1,629,146	21.3	1,401,217	20.3

At each of the three censuses considered fewer children were returned as 1 year old than at any other age under 5—a deficiency which was most noticeable in 1890 and least noticeable in 1900. It should be remembered, however, that in 1890 the age inquiry related to “age at nearest birthday,” and that since the ages of children under 1 were obtained by months, the class tabulated as “1 year old” included, so far as the instructions were strictly followed by the enumerators, only those between 12 and 18 months, inclusive. We should expect that the number of children 1 year old would be noticeably less than the number under 1 year old, on account of the very heavy death rate in the first year of life; but there is no reason to believe that there are fewer children 1 year old than 2 years old. Table 9 shows the per cents which the number reported at each of the first three years of life make of the total under 5 in the censuses of certain countries in which—as in the United States—the age question has reference to the last birthday, and the ages of children under 1 are obtained in completed months.

TABLE 9.—Per cent that population at each specified year of age forms of the total population less than 5 years of age, for countries in which ages are obtained by asking “age at last birthday.”¹

COUNTRY.	Date of census.	PER CENT OF TOTAL UNDER 5 YEARS.		
		Under 1 year.	1 year.	2 years.
Canada	1891	20.0	17.1	21.4
Denmark	1890	20.5	20.4	19.9
England and Wales.....	1891	21.2	19.5	19.9
France.....	1896	20.6	18.8	20.7
Ireland	1890	19.3	17.8	20.7
New South Wales.....	1891	21.0	19.5	20.3
New Zealand	1891	19.8	17.8	20.7
Scotland	1891	21.4	19.1	20.0
South Australia.....	1891	20.5	19.1	20.2
Tasmania.....	1891	21.4	17.8	20.4
Victoria.....	1891	22.1	19.8	19.9
Western Australia	1891	22.0	19.9	20.1

¹ Compiled from the census reports of the countries named.

In each of the censuses shown in the table, with the exception of that of Denmark, the number in the second year of life was less than the number in either the first or the third year.

Table 10 shows corresponding per cents for the censuses of those countries in which the information as to age is obtained by asking the date of birth.

TABLE 10.—Per cent that population at each specified year of age forms of the total population less than 5 years of age, for countries in which ages are obtained by asking “date of birth.”¹

COUNTRY.	Date of census.	PER CENT OF TOTAL UNDER 5 YEARS.		
		Under 1 year.	1 year.	2 years.
Austria	1890	22.9	19.6	19.6
Belgium	1890	22.1	22.2	19.4
Germany	1890	22.2	19.9	19.8
Hungary.....	1890	22.5	17.3	20.2
Netherlands.....	1889	22.4	20.4	19.6
Norway.....	1891	22.3	18.9	19.4
Sweden.....	1890	20.9	19.7	19.9
Switzerland	1888	21.7	20.0	19.8

¹ Compiled from the census reports of the countries named.

In only three of the countries included in Table 10 is the number returned as in the second year of life less than the number reported as in the third year of life. It is legitimate to infer, from the marked difference between these results and those shown in Table 9, that the form of the age question has a very considerable influence on the accuracy of the returns, and that the addition of the inquiry as to date of birth in the United States census must have increased the accuracy of the reported ages of young children. This inference is supported by the fact that the addition of the new inquiry did materially increase the accuracy of the reported ages of adults. There seems to be no reason for supposing that it did not have a corresponding effect on the returns of children's ages. At any rate, the results shown in Table 8 make it clear that the deficiency in the reported number of children 1 year old was less marked in 1900 than in either 1890 or 1880.

Another defect generally found in census age tables is a deficiency in the number of children in the first year of life. In countries in which accurate records of the births and deaths are kept this can be shown by comparison of the census returns and the registration records. In the United States it was first pointed out by Dr. Edward Jarvis,¹ who showed that the number of children reported by the census of 1850 was not enough to account for the number of survivors who were 10 years older at the census of 1860. Gen. Francis A. Walker, Superintendent of the Ninth and

¹ Article on “Immigration,” Atlantic Monthly, April, 1872.

Tenth censuses, attributed this deficiency to the fact that parents have a tendency to report children who are in their first year of age as "1 year old."¹ Dr. William Farr had previously reached a similar conclusion with regard to the English census.² This explanation is generally accepted as accounting in large measure for the apparent deficiencies in the number of young children. It is evident that the habit of denoting a child's age by the year of life, rather than by the completed year, influences the returns for older children as well as for those under 1. The marked deficiency in the number of children 1 year old must be attributed to this cause. The asking of the ages of children under 1 by months has lessened the overstatement in that year, so that the second class has gained less from the first than it has lost to the third. Additional light is thrown on this question by Table 11, which shows the per cents that the population of different classes under 1, 1, and 2 years old make of the total population less than 5.

TABLE 11.—*Per cent that population at each specified age forms of the total population under 5 years of age belonging to specified classes, for continental United States: 1900, 1890, and 1880.*

CLASS OF POPULATION.	1900			1890			1880		
	Under 1 year.	1 year.	2 years.	Under 1 year.	1 year.	2 years.	Under 1 year.	1 year.	2 years.
Aggregate ...	20.9	19.3	19.9	20.5	14.1	22.7	20.9	18.2	20.6
Native white.....	21.1	19.3	19.9	20.9	14.1	22.7	21.1	18.3	20.6
Colored	20.1	19.1	20.5	19.7	14.7	22.3	29.6	17.7	20.9

In comparing the results shown for the three censuses in Table 11, it should be remembered that the class tabulated as "under 5" in 1890 included only children who were reported to have lived less than 4 years and 6 months, while in 1880 and 1900 the same class included all children who were reported as having lived less than 5 full years. That is, the per cents shown in the table for 1890 have been obtained by the use of a relatively smaller divisor than was used in obtaining the per cents for 1880 and 1900. Hence the fact that the per cent which the population under 1 forms of the population "under 5" is somewhat smaller for 1890 than for 1880 or 1900 indicates that the overstatement of the ages of children really in their first year of life was much more frequent in 1890 than in either of the other censuses. This conclusion is confirmed by an examination of the per cents which the number "1 year old" forms of the number under 5 for 1890. These per cents are too large to represent the true proportion of children between 12 and 18 months, inclusive, to children less than 54 months old. Remembering that the number reported as 1 year old is usually too small rather than too large, it will be seen that some peculiar causes of error were at work in 1890.

It may be assumed that many persons disregarded the exact form of the age inquiry in 1890, and that to some extent the age returns of that census as of other censuses represent the completed years. This assumption is corroborated by the fact that the per cents which the population 1 year old form of the total under 5 in 1890 show less difference from the corresponding per cents for 1880 and 1900 in the case of the colored than in the case of the native white population. This indicates that the more illiterate population, or the enumerators working among them, gave less attention to the exact form of the age question. This failure to return all ages at the nearest birthday would partly explain the excessive number returned as "1 year old" in 1890, but it seems probable that there was another cause of error which also operated to swell that number. The instructions to enumerators in that census were to the effect that ages should be returned at the nearest birthday, but that the ages of children under 1 should be reported by single months. It is natural that some of the enumerators should have interpreted these instructions as meaning that only the ages of children less than 6 months old should be reported by single months. This would decrease the number of children reported as in their first year of life, and would correspondingly increase the number reported as 1 year old. It is fair to conclude that the number of children under 1 is stated more accurately by the census of 1900 than by that of 1890. Moreover, there is good reason for believing that in this particular the census of 1900 is more accurate than that of 1880. The addition of the inquiry as to date of birth has increased the general accuracy of the age returns, and has probably lessened the overstatement of the ages of children under 1 as well as of children 1 year old. Evidence of this decreased overstatement is given in Table 11, where the per cent that the population 2 years old forms of the total population under 5 is shown to be smaller in 1900 than in 1880. The returns of the population less than 1 year old by months throw some light on the question of overstatement. These returns were not tabulated at the census of 1880, and in 1890 and 1900 they were tabulated only by three-month periods. Table 12 shows the per cent that the population in each of these periods forms of the total under 1, for 1900 and 1890.

TABLE 12.—*Per cent that population at specified months of age forms of the total population less than 1 year of age, for continental United States: 1900 and 1890.*

AGE.	1900			1890		
	Aggregate.	Native white.	Colored.	Aggregate.	Native white.	Colored.
0 to 2 months	25.4	25.1	27.1	22.6	22.4	23.4
3 to 5 months	25.9	25.5	28.4	28.1	27.9	29.4
6 to 8 months	24.8	25.1	23.3	29.2	29.2	29.3
9 to 11 months	23.9	24.3	21.2	20.1	20.5	17.9

¹Ninth Census, Report on Population, pages xxix and xxx; Report on Vital Statistics, page 516.

²Farr, Vital Statistics, page 208.

It will be noted that in Table 12 there is a marked deficiency of children in the last quarter of their first year of life in 1890 as compared with 1900. This fact supports the inference already made, that overstatement was more common in 1890 than in 1900. Children in the third quarter of their first year of life, however, seem to be relatively more numerous in 1890 than in 1900. This is undoubtedly due to the concentration of reported ages on "6 months." In the Massachusetts census of 1895, in which ages were ascertained in the same way as in the Federal census of 1890, but tabulated for each month of the first year, more children were reported as 6 months old than in any other month, the number thus reported amounting to 11.1 per cent of the total population under 1.

For those states in which the registration of births and deaths is fairly complete, it is possible to test the comparative accuracy of the returns of children under 1 year at different censuses. If the registrations of births and deaths were tabulated so as to show not only the total number of births in each month, but also the month of birth and the month of death of children dying before they have lived one year, it would be possible to estimate with reasonable accuracy from such records the number of children less than a year old living at a given date, such as the date for which the census speaks. But the published registration reports, although giving the number of births in each month, classify deaths and ages at time of death only by years. It is necessary, therefore, to assume that five-twelfths of the total number of deaths of children under 1 year in a given calendar year were before and seven-twelfths after June 1. This assumption does not quite accord with the facts, infant mortality being higher in summer than in winter. But the error thus introduced will be small, and for purposes of comparison may be disregarded.

The proportion of the number of deaths of children under 1 in the twelve months preceding the taking of the census (estimated in the manner just described) to 1,000 births in the same period may be called the "infantile death rate." Such a rate is, of course, valid only for purposes of comparison. We have as data, then, the number of births during the year preceding the taking of the census, the infantile death rate, and the number of survivors as returned by the census. We can then ascertain by a simple proportion what the approximate number of survivors would have been in a given census if the death rate had been what it was in the year preceding a later census, and if the degree of completeness of the census and the registration statistics had been unchanged. Having thus adjusted the returns of the earlier census to correspond with the death rate at the later census, the next step is to obtain the ratio of this adjusted number of survivors to the number of births during the preceding year. The same proportion of the number of births during the year preceding the taking of the later census will be an approximation to the number of children less than a year old that should have been returned by the later census if the registration records and the census were about as accurate as they were at the earlier census. The difference between this estimated number and the number enumerated will be a very fair measure of the deficiency or excess in the later census as compared with the earlier one. Table 13 shows such a comparison of the census and registration statistics of Rhode Island, Massachusetts, and Connecticut for 1900, 1890, and 1880. The census of 1880 is taken as the standard of comparison. The point to be observed is that if the census and the registration of births were as accurate at one period as another, the "deficiencies" would be approximately zero.

TABLE 13.—COMPARISON OF THE POPULATION LESS THAN 1 YEAR OF AGE WITH THE REGISTRATION RECORDS OF BIRTHS AND DEATHS FOR MASSACHUSETTS, CONNECTICUT, AND RHODE ISLAND: 1900, 1890, AND 1880.

	MASSACHUSETTS.			CONNECTICUT.			RHODE ISLAND.		
	1900	1890	1880	1900	1890	1880	1900	1890	1880
Births, year ending May 31	71,936	57,813	42,053	20,881	17,367	13,908	10,816	8,399	6,388
Deaths of children under 1 year of age	10,936	9,322	6,411	3,114	2,481	1,927	1,850	1,422	797
Infantile death rate	152	161	152	149	143	139	171	169	125
Survivors, by census	60,492	43,043	37,586	19,774	14,469	12,879	9,368	6,890	6,132
Estimated survivors	64,546	51,120	.....	19,111	16,020	.....	9,834	7,658	5,824
Apparent deficiency	4,054	8,077	.....	-663	1,551	.....	466	768	.....
Per cent of deficiency	6.3	15.8	.....	-3.5	9.7	.....	4.7	10.0	.....

Table 13 shows that if the accuracy of the registration reports was constant, the census returns of children were much less complete in 1890 than in 1880 in each of the states considered. The results for 1900 show smaller relative deficiencies in Rhode Island and Massachusetts, and a gain in Connecticut. This would indicate that the returns of children's ages in Massachusetts and Rhode Island were more complete in 1900

than in 1890, but less complete than in 1880, while in Connecticut they were more complete in 1900 than in either 1880 or 1890. But these results may indicate improvements in the registration of births. In fact, the laws governing the registration of births in Massachusetts were changed at such a time as to affect the comparisons between 1880 and 1890, and the laws in Rhode Island and Connecticut were changed between 1890 and

1900.¹ In these changes we have the explanation of the excess of the apparent deficiency in Massachusetts for 1890 over the deficiencies for the other states in the same census. Here too, undoubtedly, lies the explanation of the apparent deficiencies in Massachusetts and Rhode Island for 1900 as compared with 1880. It is significant that, notwithstanding improvements in the registration returns, the results for Connecticut show that the census of 1900 was relatively more complete in its reports of children under 1 than the census of 1880. In general these results confirm the previous inference that the reports of the ages of young children were much more accurate in 1900 than in 1890 and probably more accurate than in 1880.

It is thought by some that the apparent deficiencies in the number of children returned by the census are in large measure real deficiencies.² It is a matter of general census experience that the persons giving the information to the enumerators do not always realize the necessity of including young children in the census, and that a few are accordingly omitted.³ But such omissions are unimportant as compared with the errors resulting from overstatement of ages. There is no reason for believing that the omissions were relatively more numerous at one census than at another, while it is certain that the manner of obtaining the information as to age had an important influence upon the accuracy of the returns.

Centenarians.—If the returns were accurate there must have been 3,504 persons in the United States in 1900 who had lived more than one hundred years. There is no doubt, however, that this number is an exaggeration,⁴ although it is a relatively smaller number than has been returned at any other census of the United States. The number of centenarians in 100,000 population of known ages at the last six censuses has been as follows: 1850, 11; 1860, 10; 1870, 9; 1880, 8; 1890, 6; 1900, 5. This regular diminution indicates, not that the longevity of the population has been decreasing, but that in this as in other particulars the accuracy of the age statistics of the census has been increasing. Table 14 shows the number of centenarians in 100,000 population of all ages, classified by sex, race, and nativity, at the last three censuses.

¹ Massachusetts Registration Report, 1880, appendix, page clxxvi; Connecticut Registration Report, 1900, page 5; Rhode Island Registration Report, 1900, page 136.

² Twelfth Census, Vol. III, page xl.

³ This subject has been treated by the present writer in an article on "The Enumeration of Children," Quarterly Publications of the American Statistical Association, March, 1901, Vol. VII, pages 227 to 254.

⁴ In European census practice it is quite common to check the accuracy of the returns of centenarians by special investigation of each case. For a partial list of such investigations see G. von Mayr, Statistik und Gesellschaftslehre, Vol. II, page 74.

"In Prussia the number of persons [in a total population of 30,000,000] declared to be more than 100 years old in 1890 was 149, of whom more than one-half were discovered upon investigation to be of less age; and of these 8.8 per cent were found to be from 95 to 100; 14.3 between 90 and 95; and the rest not yet 90 years old."—Mayo-Smith, Statistics and Sociology, page 61.

Even the uncorrected figures for Prussia amount to a proportion of only one centenarian in every 200,000 of the population—about one-thirteenth of the proportion in the United States in the same year.

TABLE 14.—Population over 100 years of age in 100,000 of all known ages, by sex, race, and nativity, for continental United States: 1900, 1890, and 1880.

SEX, RACE, NATIVITY, OR NATIVITY OF PARENTS.	1900	1890	1880
Aggregate:			
Both sexes	4.6	6.4	8.0
Males	3.3	4.4	5.5
Females	6.0	8.5	10.6
Native white:			
Both sexes	0.8	1.4	1.6
Males	0.5	1.0	1.3
Females	1.6	1.9	1.9
Native white—native parents:			
Both sexes	1.0	1.7	.....
Males	0.6	1.2	.....
Females	1.3	2.3	.....
Native white—foreign parents:			
Both sexes	0.3	0.6	.....
Males	0.3	0.5	.....
Females	0.4	0.6	.....
Foreign white:			
Both sexes	3.9	4.4	5.6
Males	3.3	3.6	4.4
Females	4.6	5.3	6.8
Colored:			
Both sexes	29.0	38.6	45.4
Males	21.0	25.6	29.9
Females	38.0	51.6	60.8

The most noticeable fact shown by Table 14 is that the proportion of persons who were reported to be over 100 years old in 1900 is thirty-six times as great for the colored as for the native white population. This difference seems even more remarkable when it is remembered that the death rate of the colored population is considerably higher than that of any other class,⁵ and that consequently the real proportion of centenarians is probably less for the colored than for any other class.

The relatively low proportion of centenarians among the native white population of foreign parents is to be explained by the fact that there were very few persons of foreign birth in the United States one hundred years ago.

It will be noted that for every class of the population the proportion of reported centenarians is greater for females than for males. This should not be taken as indicating a greater tendency to the overstatement of age among women of advanced age than among men. In the greater number of age periods the mortality of males is higher than that of females, and consequently more females attain advanced age. For both sexes and for all classes of the population the three censuses show a progressive improvement in the accuracy of the returns of centenarians.

Definite proof of the inaccuracy of the returns of centenarians is given in Table 15, in which the correlation between illiteracy and the proportion of centenarians is shown. The various states are ranked in order of the proportion of reported centenarians in their population, as well as in the order of the per cent of their population 10 years of age and over who can not read or write. If the correlation were perfect, the ranks of the states with respect to these two ratios would, of course, be identical—that is, the differences shown in the last column of the table would be zero. So close a correlation can not be expected, for the number of re-

⁵ For comparative death rates see Twelfth Census, Vol. III, page lxix.

ported centenarians depends upon (1) the number of actual centenarians in the population; (2) the number of persons less than 100 years old, but of advanced age; (3) the proportion of the total number of persons of advanced age who erroneously return themselves as over 100. Only the third factor can be supposed to have any connection with the illiteracy of the population.

TABLE 15.—Correlation between illiteracy and the number of reported centenarians in 100,000 of known ages, for states and territories: 1900.

STATE OR TERRITORY.	Number of centenarians in 100,000 of known age.	Per cent illiterate in population 10 years and over.	RANK.		
			In proportion of centenarians.	In illiteracy.	Difference.
Alabama.....	16	34.0	5	3	2
Arizona.....	21	29.0	1	7	6
Arkansas.....	8	20.4	14	12	2
California.....	5	4.8	18	35	17
Colorado.....	1	4.2	39	41	2
Connecticut.....	1	5.9	43	27	16
Delaware.....	1	12.0	44	17	24
District of Columbia.....	7	8.6	16	20	4
Florida.....	15	21.9	7	10	3
Georgia.....	15	30.5	6	6	0
Idaho.....	2	4.6	32	38	6
Illinois.....	2	4.2	35	40	5
Indian Territory.....	8	19.0	12	13	1
Indiana.....	2	4.6	29	37	8
Iowa.....	1	2.3	41	49	8
Kansas.....	3	2.9	21	48	27
Kentucky.....	5	16.5	17	14	3
Louisiana.....	18	38.5	4	1	3
Maine.....	2	5.1	31	33	2
Maryland.....	5	11.1	19	19	0
Massachusetts.....	1	5.9	37	26	11
Michigan.....	2	4.2	28	39	11
Minnesota.....	1	4.1	48	42	6
Mississippi.....	20	32.0	2	5	3
Missouri.....	3	6.4	23	22	1
Montana.....	2	6.1	27	25	2
Nebraska.....	1	2.3	46	50	4
Nevada.....	19	13.3	8	16	13
New Hampshire.....	3	6.2	22	23	1
New Jersey.....	1	5.9	42	28	14
New Mexico.....	10	33.2	9	4	5
New York.....	1	5.5	38	32	6
North Carolina.....	9	28.7	10	8	2
North Dakota.....	1	5.6	40	30	10
Ohio.....	2	4.0	36	43	7
Oklahoma.....	4	5.5	20	31	11
Oregon.....	2	3.3	34	45	11
Pennsylvania.....	1	6.1	45	24	21
Rhode Island.....	1	8.4	47	21	26
South Carolina.....	15	35.9	8	2	6
South Dakota.....	(1)	5.0	49	34	15
Tennessee.....	8	20.7	15	11	4
Texas.....	9	14.5	11	15	4
Utah.....	3	3.1	26	46	20
Vermont.....	3	5.8	25	29	4
Virginia.....	8	22.9	13	9	4
Washington.....	3	3.1	24	47	23
West Virginia.....	2	11.4	30	18	16
Wisconsin.....	2	4.7	33	36	3
Wyoming.....	(1)	4.0	50	44	6

¹ Less than 0.5 in 100,000.

The degree of correlation between the proportion of centenarians and the illiteracy of the population is indicated by the fact that for 24 of the 50 states the differences shown in the last column are less than 6. If there were no correlation between the two ratios the "median difference" would be as liable to be over 14 as to be under 15.

The general age constitution of the state of Iowa is fairly typical of that of continental United States as a whole, and in Iowa the per cent illiterate in the population 10 years old and over is less than in any other state except Nebraska. There were in Iowa, in 1900, 2,226,632 persons of known age, of whom 26 were reported to

be more than 100 years old. The corresponding proportion of the population of continental United States would give 884 centenarians, or about one-fourth the reported number. This number, however, can scarcely be regarded as even a maximum estimate; the true number was undoubtedly much less.

AGE CONSTITUTION OF THE POPULATION.

Median and average ages.—The simplest and probably the most significant single expression of the age constitution of the population is the median age. This is the age with reference to which the population can be divided into halves—that is, half of the population are younger and half are older than the median age. In the computation of the median age, it is assumed that the population in the year of life in which the median falls is evenly distributed through that year. The death rate at the ages in which the median falls is so small that the exaggeration of the median age produced by this assumption is very slight. Table 16 shows the median age for different classes of the population at the census of 1900.

TABLE 16.—Median age of the population classified by sex, general nativity, and race, for persons of known age in continental United States: 1900.

CLASS OF POPULATION.	Both sexes.	Males.	Females.
Aggregate.....	22.85	23.29	22.43
Native born.....	20.10	20.20	20.02
Foreign born.....	38.42	38.71	38.03
Total white.....	23.36	23.62	22.91
Native white.....	20.22	20.33	20.12
Native white—native parents.....	21.10	21.27	20.93
Native white—foreign parents.....	18.05	17.99	18.11
Foreign white.....	38.43	38.71	38.04
Total colored.....	19.70	19.97	19.46
Negro.....	19.45	19.45	19.44

For the aggregate population of both sexes the median age is 22.85; for males it is 23.29, and for females it is 22.43 years. The difference between the median ages of the two sexes is about 10 months. Part of this difference is due to the larger number of foreign born persons among the males than among the females. Among the different classes of the population the median age is highest for the foreign born population and lowest for the native whites of native parents. The foreign born population increases through immigration, mainly of adults. This explains the high median age of the foreign born, and, coupled with a relatively high birth rate, it explains the low median age of their native children. There is a difference of 1.65 years between the median age of the native white population of native parents and that of the negro population, which indicates the higher birth rate and death rate of the latter class. For each class of the population except the native white of foreign parents the median age is higher for males than for females. It will be noted, however,

that with the exception of the foreign born population and of the native white population of foreign parents the median age falls where it would be affected by the tendency of males to overstate their ages for the purpose of being counted as of voting age. If there is any bias in the errors in the age returns of females at corresponding ages, it takes the form of understatement. In view of these considerations it seems unsafe to attach any special significance to the difference between the median ages of males and females.

Table 17 shows the median age of the population classified as living in urban and in rural districts in 1900.

TABLE 17.—Median age of the population, classified by sex and as living in cities having at least 25,000 inhabitants, in cities having at least 100,000 inhabitants, and in smaller cities and rural districts, for continental United States: 1900.

	Both sexes.	Males.	Females.
Continental United States.....	22.85	23.29	22.43
Cities having at least 25,000 inhabitants.....	25.40	25.83	25.01
Smaller cities and rural districts.....	21.85	22.34	21.33
Cities having at least 100,000 inhabitants.....	25.36	25.79	24.97
Smaller cities and rural districts.....	22.22	22.68	21.75

The median age of the population living in cities of over 25,000 inhabitants is about three and one-half years greater than that of the population living in smaller cities and rural districts. This difference may be attributed to two main causes—the higher birth rate of the rural districts, and the migration from the country to the cities, which, like migration from abroad, consists largely of adults. Moreover, the cities contain a larger proportion of foreign born persons than do the rural districts. The median age of the population in cities having between 25,000 and 100,000 inhabitants is somewhat higher than it is in larger cities. The difference between the median ages of the population in urban and in rural districts is slightly larger for women than for men.

Table 18 shows the median age of the population, classified by sex, for every census the United States has taken. Before 1880 the ages of the population were not given by single years. In 1790 the ages of only the free white male population were obtained, and in only two groups—under 16 and over 16. In successive censuses new details were added to the age classification, and since 1830 the ages of that part of the population in which the median age falls have been tabulated in quinquennial groups. For the censuses before 1880 it has been assumed for the purpose of computing the median age that the proportions of the population at

the single years within the groups were as in 1900. For the colored population the returns of the negro population in 1900 have been used as a standard, for no other classes were counted as “colored” before 1870.

TABLE 18.—Median age of the population classified by sex and race, for continental United States: 1790 to 1900.

CENSUS.	AGGREGATE.			WHITE.			COLORED.		
	Both sexes.	Males.	Fe-males.	Both sexes.	Males.	Fe-males.	Both sexes.	Males.	Fe-males.
1900.....	22.85	23.29	22.43	23.36	23.82	22.91	19.70	19.97	19.46
1890.....	21.42	21.80	21.00	21.94	21.34	21.55	17.83	17.92	17.75
1880.....	20.86	21.13	20.62	21.32	21.60	21.01	18.01	17.98	18.03
1870.....	20.14	20.22	20.07	20.38	20.52	20.25	18.49	18.19	18.78
1860.....	19.38	19.74	19.03	19.70	20.11	19.32	17.65	17.78	17.52
1850.....	18.83	19.12	18.56	19.12	19.49	18.78	17.33	17.27	17.40
1840.....	17.76	17.78	17.73	17.85	17.92	17.77	17.27	17.03	17.51
1830.....	17.16	17.06	17.25	17.21	17.15	17.27	16.90	16.65	17.14
1820.....	16.65	16.57	16.73	16.53	16.49	16.58	17.15	16.94	17.36
1810.....	.....	.....	.....	15.99	15.87	16.13	.....	.....	.....
1800.....	.....	.....	.....	15.97	15.73	16.27	.....	.....	.....
1790.....	.....	.....	.....	.....	15.88	.....	.....	.....	.....

The most significant fact shown by the results in Table 18 is the general increase in the median age of the population. This is probably due to a combination of factors, among which are a decreasing birth rate, a decreasing death rate, and an increase in the number of the foreign born. The median age of the aggregate population of both sexes has increased during every decade since 1820. The total amount of this increase in the eight decades is 6.2 years, or an average of about two-thirds of a year per decade. The greatest apparent increase has been between 1890 and 1900, but this is probably due in part to the fact that in 1890 many persons gave their ages as at their last birthday, notwithstanding the fact that the question in that census called for “age at nearest birthday.” This error undoubtedly makes the median age for that census somewhat too low. The median age of the white population increased during each decade from 1810 to 1900, the increase amounting in the ninety years to 7.4 years, or an average increase of about five-sixths of a year in a decade. For both the white and the colored population the increase in the median age has been greater for males than for females. So far as the white population is concerned this may be partly due to the large excess of males in the increasing foreign born population.

Table 19 shows the median age and quartiles for states and territories at the census of 1900. The quartiles might be called “secondary medians.” One-fourth of the population are below and three-fourths are above the first quartile; three-fourths are below and one-fourth are above the second quartile.

TABLE 19.—MEDIAN AGE AND QUANTILES OF THE TOTAL POPULATION: 1900.

STATE OR TERRITORY.	Median age.	First quartile.	Second quartile.	STATE OR TERRITORY.	Median age.	First quartile.	Second quartile.
Continental United States	22.85	10.52	38.75	Continental United States—Continued.			
North Atlantic division	25.76	12.30	40.81	North Central division—Continued.			
New England	27.11	13.49	42.85	Western North Central	22.23	10.29	38.24
Maine	27.92	13.66	46.33	Minnesota	22.02	9.78	37.52
New Hampshire	28.50	14.40	46.08	Iowa	22.96	10.71	39.30
Vermont	27.96	13.47	46.48	Missouri	22.36	10.53	38.11
Massachusetts	26.91	13.47	41.57	North Dakota	20.77	8.70	35.26
Rhode Island	26.24	13.15	41.18	South Dakota	20.74	9.29	37.40
Connecticut	26.85	13.15	42.18	Nebraska	21.60	9.98	37.53
Southern North Atlantic	25.29	11.92	40.30	Kansas	22.22	10.62	39.21
New York	26.17	12.64	40.85	South Central division	19.21	8.76	34.18
New Jersey	25.45	11.85	40.23	Eastern South Central	19.55	8.97	34.83
Pennsylvania	24.20	11.20	39.49	Kentucky	20.73	9.56	36.52
South Atlantic division	19.98	9.12	35.64	Tennessee	19.91	9.26	35.34
Northern South Atlantic	21.72	10.12	38.05	Alabama	18.77	8.58	33.57
Delaware	24.63	11.81	40.86	Mississippi	18.46	8.43	32.51
Maryland	23.39	11.10	39.62	Western South Central	18.84	8.54	33.46
District of Columbia	27.10	15.00	41.12	Louisiana	19.36	8.69	33.97
Virginia	20.28	9.39	36.82	Arkansas	18.66	8.55	33.21
West Virginia	20.28	9.17	35.32	Indian Territory	18.11	8.15	31.96
Southern South Atlantic	18.70	8.51	33.81	Oklahoma	19.94	8.79	35.56
North Carolina	18.68	8.49	34.81	Texas	18.68	8.49	33.24
South Carolina	18.04	8.29	32.27	Western division	25.80	12.02	40.24
Georgia	18.80	8.53	33.58	Rocky Mountain	24.93	10.93	38.49
Florida	20.39	9.10	34.73	Montana	26.60	12.11	38.14
North Central division	23.35	10.86	39.38	Idaho	22.45	9.54	37.59
Eastern North Central	24.09	11.29	40.10	Wyoming	24.89	11.53	36.91
Ohio	24.89	11.99	41.10	Colorado	25.92	11.89	39.49
Indiana	23.98	11.45	40.48	New Mexico	21.12	8.86	37.27
Illinois	23.95	11.02	38.79	Basin and Plateau	21.33	9.39	37.12
Michigan	24.57	11.56	41.29	Arizona	24.24	10.60	38.32
Wisconsin	22.26	10.18	39.20	Utah	19.07	8.49	35.19
				Nevada	28.30	14.56	44.91
				Pacific	27.12	13.23	41.59
				Washington	25.80	11.81	39.55
				Oregon	25.33	12.19	40.70
				California	28.04	14.14	42.81

The median age is highest in the New England and the Pacific states, and lowest in the Southern South Atlantic and the Western South Central divisions. The maximum, 28.50 years, is in New Hampshire; the minimum, 18.04 years, is in South Carolina. The region in which the median age is higher than that of continental United States as a whole includes all of the New England and North Atlantic states, the South Atlantic states north of the Potomac river, all the states of the Eastern North Central division except Wisconsin and Iowa, and all the states of the Western division except New Mexico, Utah, and Idaho. Map 1 shows the geographic distribution of median ages, classified in three arbitrarily selected groups.

The distribution of the quartiles necessarily has a very close correlation with that of the median. The position of the lower quartile, however, is influenced especially by the proportion of children in the population, while the position of the upper quartile is more

responsive to variations in the proportions of persons of advanced years in the population. It is significant, therefore, that the maxima for the lower quartile are in California and Nevada, while the maxima for the upper quartile are in Maine, Vermont, and New Hampshire. For both quartiles the minima are in South Carolina and Indian Territory.

Table 20 shows the average age of certain classes of the population in 1900, 1890, and 1880. The average age is obtained by ascertaining the sum of the ages of the population and dividing this sum by the number of the population. For this purpose it is assumed that the population is distributed evenly through each year of life; thus, the population reported as 47 years old is assumed to average $47\frac{1}{2}$ years. As the age tables do not show the ages of centenarians by single years, it has been assumed that their average age is that which the Massachusetts census of 1895 reports for that state—102 $\frac{1}{2}$ years.

MAP 1.—MEDIAN AGE OF THE TOTAL POPULATION, FOR STATES AND TERRITORIES: 1900.

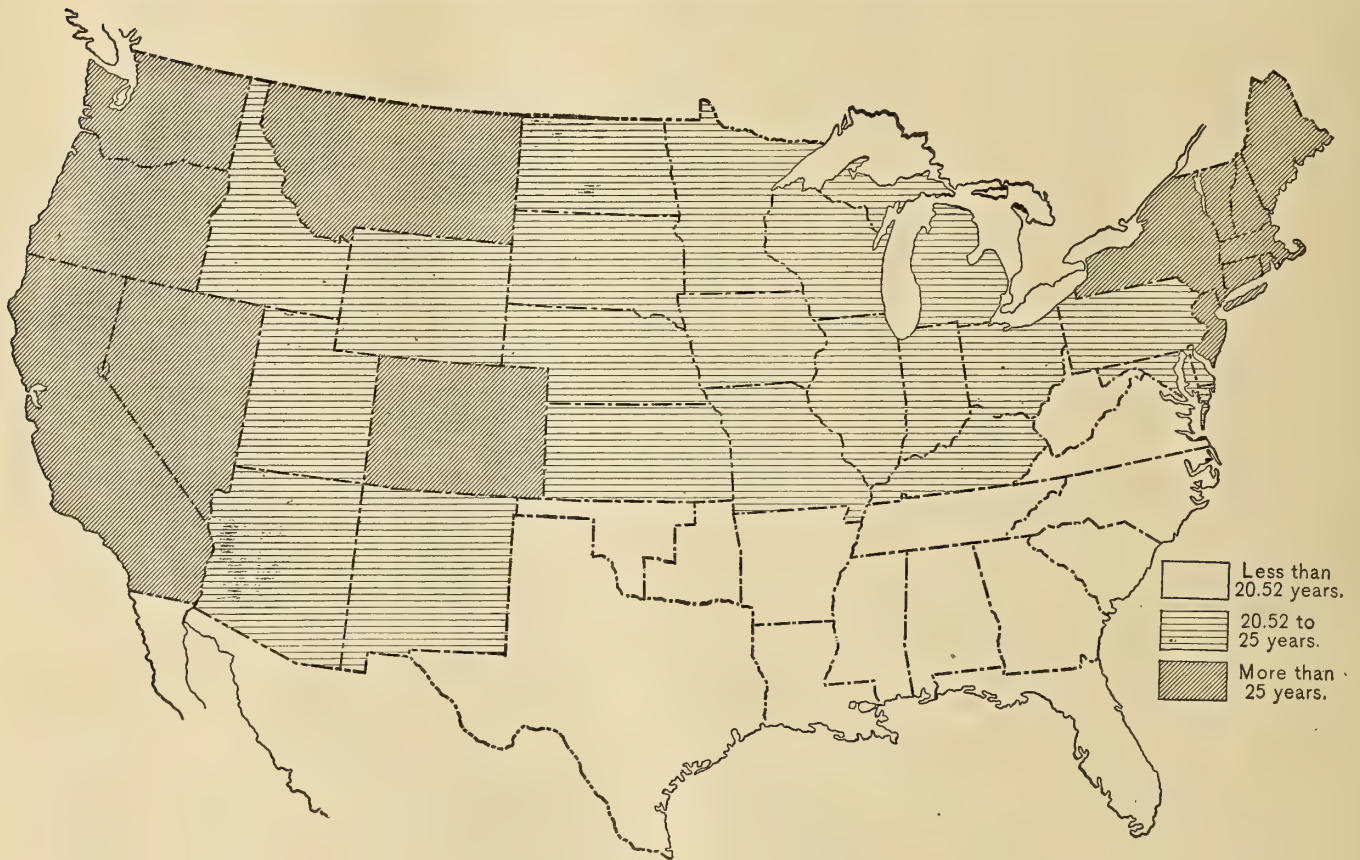


TABLE 20.—AVERAGE AGE OF THE POPULATION, CLASSIFIED BY RACE AND NATIVITY, FOR CONTINENTAL UNITED STATES: 1900, 1890, AND 1880.

	AGGREGATE.			NATIVE WHITE.			FOREIGN WHITE.			COLORED.		
	1900	1890	1880	1900	1890	1880	1900	1890	1880	1900	1890	1880
All ages	75,994,575	62,622,250	50,155,783	56,595,379	45,862,023	36,843,291	10,213,817	9,121,867	6,559,679	9,185,379	7,638,360	6,752,813
Unknown	200,584	162,165	.....	120,172	96,524	.....	24,880	24,617	.....	55,532	41,024	.....
Known	75,793,991	62,460,085	50,155,783	56,475,207	45,765,499	36,843,291	10,188,937	9,097,250	6,559,679	9,129,847	7,597,336	6,752,813
Sum of known ages.	1,989,260,440	1,569,020,194	1,234,564,930	1,364,925,515	1,056,226,318	832,145,935	410,196,526	344,032,595	254,272,979	214,138,444	168,761,281	148,146,065
Average age.....	26.2	25.1	24.6	24.2	23.1	22.6	40.3	37.8	38.8	23.5	22.2	21.9

The average age, like the median, has risen during the period from 1880 to 1900, the total increase for the aggregate population amounting to 1.6 years, while the increase in the median age in the same period was about 2 years. The increase in the average age of both the native white and the colored population, also, was 1.6 years, while the increase in the average age of the foreign white population was but one-tenth of a year less. During the period 1880 to 1890, in which an unprecedentedly large number of immigrants came to the United States, the average age of the foreign born population declined. During the decade 1890 to 1900 the immigration was less, so that at the end of the decade there was a relatively large number of foreign born persons who had been in the United States more than 10 years. This caused an increase of a year and a half in the average age of the foreign white population during that decade. The average age, like the median, is highest for the foreign white and lowest for the colored. In computing both the average and the median age it has been assumed that in 1890 the age question was answered as asked, that is, that the age reports represent the ages of the population at the nearest birthdays. If it be thought that for most of the returns the age was really age at last birthday, corresponding changes should be made in the average and median ages. On this supposition the median age for that census would be raised by 6 months. The average age would be, for the aggregate population, 25.6 years; for the native white, 23.6 years; for the foreign white, 38.3 years; for the colored, 22.7 years.

Productive and nonproductive ages.—An age classification which is frequently used is that into productive and nonproductive ages. It has been said that from the economic point of view this is the most important

of the statistical groupings of the population.¹ The idea is that the population can be grouped by ages in such a way as to differentiate those who have to bear the brunt of the economic struggle and those who are economically dependent. The division usually adopted is into three groups, persons under 15 and persons over 60 years of age being classed as economically unproductive. Of course the limits of these groups are arbitrarily chosen and it is quite certain that they are not very accurate. The census of 1900 showed that the per cent of males who were engaged in gainful occupations was as follows: 10 to 14 years of age, 21.4; 15 to 64 years of age, 90.8; 65 years and over, 68.4. For females the per cents were as follows: 10 to 14, 8.1; 15 to 64, 21.4; 65 and over, 9.1. The upper limit of the group of "productive ages" ought to be higher than either 60 or 65 years. Care should be taken, therefore, not to place too much emphasis on the economic significance of the classification into "productive" and "nonproductive" ages. Yet this classification is not without utility. It is desirable for many purposes to have a classification of the ages of the population less detailed than the usual grouping in 5-year or 10-year periods, and for such purposes this one serves as well as any other. The year 15 marks off with a rough accuracy the years of childhood from those of adult life. The year 60 marks quite as accurately the completion of the period of "middle age" and the beginning of "advanced years." Tables 21 and 22 show the population in these three age groups classified by sex, race, and nativity for the censuses of 1900, 1890, and 1880.

¹ Wagner, *Grundlegung der politischen Oekonomie*, 3d ed., Vol. I, part 2, page 606. Cf. Engel, *Der Werth des Menschen*.

TABLE 21.—POPULATION IN SPECIFIED AGE GROUPS, CLASSIFIED BY SEX, RACE, AND NATIVITY, FOR CONTINENTAL UNITED STATES: 1900, 1890, AND 1880.

SEX, RACE, OR NATIVITY.	1900			1890			1880		
	Under 15 years.	15 to 59 years.	60 years and over.	Under 15 years.	15 to 59 years.	60 years and over.	Under 15 years.	15 to 59 years.	60 years and over.
Aggregate:									
Both sexes.....	26,124,985	44,797,145	4,871,861	22,242,200	36,342,563	3,875,322	19,109,362	28,218,743	2,827,678
Males.....	13,196,049	23,026,891	2,472,585	11,290,008	18,681,914	1,992,429	9,690,321	14,376,077	1,452,422
Females.....	12,928,936	21,770,254	2,399,276	10,952,192	17,660,649	1,882,893	9,419,041	13,842,666	1,375,256
Total white:									
Both sexes.....	22,517,516	39,719,251	4,427,377	19,044,788	32,292,739	3,525,222	16,123,101	24,759,003	2,520,866
Males.....	11,393,107	20,469,665	2,241,137	9,672,145	16,642,775	1,810,766	8,188,222	12,648,785	1,293,893
Females.....	11,124,409	19,249,586	2,186,240	9,372,643	15,649,964	1,714,456	7,934,879	12,110,218	1,226,973
Native white:									
Both sexes.....	22,006,390	31,536,818	2,931,999	18,313,429	25,086,799	2,365,271	15,699,594	19,334,892	1,808,805
Males.....	11,135,181	16,007,985	1,461,594	9,300,876	12,693,734	1,195,848	7,974,423	9,721,948	912,894
Females.....	10,871,209	15,528,833	1,470,405	9,012,553	12,393,065	1,169,423	7,725,171	9,612,944	895,911
Foreign white:									
Both sexes.....	511,126	8,182,433	1,495,378	731,359	7,205,940	1,159,951	423,507	5,424,111	712,061
Males.....	257,926	4,461,680	779,543	371,269	3,949,041	614,918	213,799	2,926,837	380,999
Females.....	253,200	3,720,753	715,835	360,090	3,256,899	545,033	209,708	2,497,274	331,062
Colored:									
Both sexes.....	3,607,469	5,077,894	444,484	3,197,412	4,049,824	350,100	2,986,261	3,459,740	306,812
Males.....	1,802,942	2,550,726	231,448	1,617,863	2,039,139	181,663	1,602,099	1,727,292	158,529
Females.....	1,804,527	2,527,168	213,036	1,579,549	2,010,685	168,437	1,484,162	1,732,448	148,283

TABLE 22.—PER CENT THAT POPULATION IN SPECIFIED AGE GROUPS FORMS OF TOTAL POPULATION OF KNOWN AGES, CLASSIFIED BY SEX, RACE, AND NATIVITY, FOR CONTINENTAL UNITED STATES: 1900, 1890, AND 1880.

SEX, RACE, OR NATIVITY.	1900			1890			1880		
	Under 15 years.	15 to 59 years.	60 years and over.	Under 15 years.	15 to 59 years.	60 years and over.	Under 15 years.	15 to 59 years.	60 years and over.
Aggregate:									
Both sexes.....	34.5	59.1	6.4	35.6	58.2	6.2	38.1	56.3	5.6
Males.....	34.1	59.5	6.4	35.3	58.5	6.2	38.0	56.3	5.7
Females.....	34.8	58.7	6.5	35.9	57.9	6.2	38.2	56.2	5.6
Total white:									
Both sexes.....	33.8	59.6	6.6	34.7	58.9	6.4	37.2	57.0	5.8
Males.....	33.4	60.0	6.6	34.4	59.2	6.4	37.0	57.2	5.8
Females.....	34.2	59.1	6.7	35.1	58.5	6.4	37.3	56.9	5.8
Native white:									
Both sexes.....	39.0	55.8	5.2	40.0	54.8	5.2	42.6	52.5	4.9
Males.....	38.9	56.0	5.1	40.1	54.7	5.2	42.9	52.2	4.9
Females.....	39.0	55.7	5.3	39.9	54.9	5.2	42.4	52.7	4.9
Foreign white:									
Both sexes.....	5.0	80.3	14.7	8.0	79.2	12.8	6.5	82.7	10.8
Males.....	4.7	81.1	14.2	7.5	80.0	12.5	6.1	83.1	10.8
Females.....	5.4	79.3	15.3	8.6	78.3	13.1	6.9	82.2	10.9
Colored:									
Both sexes.....	39.5	55.6	4.9	42.1	53.3	4.6	44.2	51.2	4.6
Males.....	39.3	55.6	5.1	42.2	53.1	4.7	44.3	51.0	4.7
Females.....	39.7	55.6	4.7	42.0	53.5	4.5	44.1	51.5	4.4

The age group containing the years 15 to 59, which may be called "productive ages," contained in 1900 a larger proportion than in either 1880 or 1890. For every class of the population this group was relatively larger in 1900 than in 1890, and for the native white and colored populations it was relatively larger in 1900 than in 1880.

The decline in the proportion of the foreign white population at productive ages in the decade 1880 to 1890 was undoubtedly due to the large foreign immigration of that decade. The decline of immigration in the decade 1890 to 1900 brought with it a slight increase in the proportion of foreigners of productive age and a marked increase in the same class over 60 years of age. For the aggregate population a slightly larger proportion of men than of women were of productive age at each of the three censuses. For the native white and colored population, however, the proportion of the female population who were of productive age was larger than the corresponding proportions for males in 1890 and 1880, but the differences between these proportions are too small to be of significance.

The approximate equality between the per cents of the native white and the colored population who are of productive age is noticeable. It should be remembered, however, that the native white include the native children of foreign parents, so that this close approximation is more interesting than significant. The very marked excess of the percentage in productive ages among the foreign born over the corresponding per cents for the other classes of the population is self-explanatory.

The general increase in the proportion of the population at productive ages has been accompanied by an increase in the proportion 60 years of age and over. For the native white and negro populations these facts seem to indicate a decreasing birth rate and possibly an increase in the average length of life.

For every class of the population the proportion under 15 was less in 1900 than in either 1890 or 1880. Table 23 shows a similar grouping of the population by age for the most important European countries.

TABLE 23.—POPULATION OF EUROPEAN COUNTRIES IN SPECIFIED AGE GROUPS AND PER CENT THAT POPULATION IN EACH GROUP FORMS OF THE TOTAL POPULATION OF KNOWN AGES.¹

COUNTRY.	Date of census.	All known ages.	Under 15 years.	15 to 59 years.	60 years and over.	PER CENT.		
						Under 15 years.	15 to 59 years.	60 years and over.
Austria	1890	23,895,413	8,160,450	13,850,593	1,884,370	34.1	58.0	7.9
Belgium	1890	6,069,321	1,989,448	3,491,864	588,008	32.8	57.5	9.7
Denmark	1890	2,170,752	755,702	1,193,288	221,762	34.8	55.0	10.2
England and Wales	1891	29,002,525	10,172,235	16,684,809	2,145,481	35.1	57.5	7.4
France	1890	38,112,731	10,000,152	23,343,426	4,769,153	26.2	61.3	12.5
Germany	1890	49,428,470	17,372,100	28,111,728	3,944,642	35.1	56.9	8.0
Holland	1890	4,511,169	1,647,231	2,448,266	415,672	36.5	54.3	9.2
Hungary	1890	17,339,226	6,401,888	9,746,809	1,190,529	36.9	56.2	6.9
Ireland	1891	4,702,964	1,529,067	2,681,784	492,113	32.5	57.0	10.5
Italy	1880	28,455,948	9,158,457	16,750,238	2,547,253	32.2	58.9	8.9
Norway	1890	1,986,955	712,310	1,051,201	223,444	35.9	52.9	11.2
Portugal	1890	5,030,564	1,669,139	2,857,460	503,965	33.2	56.8	10.0
Scotland	1891	4,025,647	1,432,225	2,276,776	316,646	35.6	56.5	7.9
Spain	1890	17,252,472	5,741,024	10,219,423	1,292,025	33.3	59.2	7.5
Sweden	1890	4,784,981	1,593,316	2,643,034	548,631	33.3	55.2	11.5
Switzerland	1890	2,933,334	941,269	1,716,082	275,983	32.1	58.5	9.4

¹ Computed from the tables given by Bertillon, in *Statistique Internationale résultant des Recensements de la Population exécutés dans les divers Pays de l'Europe pendant le XIX^e siècle et les époques précédentes.* [Paris, 1899.]

When these results are compared with those for the aggregate population in 1900, it appears that the United States has an unusually large proportion of its population in the group of productive ages. Only France and Spain—countries in which the population is more nearly stationary than in any other countries of Europe—have a larger per cent of their population in productive ages than has the United States. It will be noted that the censuses of the European countries included in Table 23, except that of Italy, were taken in, or near, 1890. Comparing with these results the returns for the United States in 1890, it appears that not only in France and Spain, but also in Switzerland and Italy, the population of productive age was a larger proportion of the total population of known ages than in the United States. The main cause of the relatively high proportion of productive ages in the United States is the importance of the foreign born element in our population. For most European countries emigration exceeds immigration. The native white population and the colored population (96 per cent of whom are native) of the United States in 1900 included relatively fewer persons who were of productive age than did any of the countries shown in Table 23, except Holland, Denmark, Norway, and Sweden. Making the comparison with the United States census of 1890, only Holland and Norway had a smaller proportion at productive ages than our native white, and only Norway a smaller proportion than our colored population. It is significant that all of the European countries shown in the table had in 1890 a larger per cent of population more than 60 years old than had the United States in either 1900 or 1890.

Table 24 shows the population at productive and nonproductive ages in cities and rural districts, for 1900. The age returns for cities have not been tabulated in such a way as to make it possible to use the same upper limit for the period of productive ages as in the other tables. Accordingly, those over 15 and less than 65 years of age have been considered as of productive age.

The table shows that the per cent of the population in the productive age group is larger in the cities than in the rural districts, this difference being more marked for

females than for males. It should be noted, however, that the proportion who are of productive ages does not increase with the size of the city; on the contrary the per cent for cities of between 25,000 and 100,000 population is larger than for cities of over 100,000 population. Persons over 65 years of age, also, are relatively more numerous in the smaller cities. Children under 15, however, are found in relatively greater numbers in the large cities than in cities of less than 100,000 population. The difference between the age constitutions of the urban and rural districts, so far as the relative numbers in productive and nonproductive ages is concerned, is to be explained largely by the migration from the rural districts to the cities, although differences in birth and death rates and in the number of foreign born residents, also, must be taken into account.

TABLE 24.—*Number and per cent of the total population of known ages in specified age groups, classified by sex and as living in cities having at least 100,000 inhabitants, in cities having between 25,000 and 100,000 inhabitants, and in smaller cities and rural districts, for continental United States: 1900.*

SEX OR AGE GROUP.	IN CITIES HAVING AT LEAST 100,000 INHABITANTS.		IN CITIES HAVING BETWEEN 25,000 AND 100,000 INHABITANTS.		IN SMALLER CITIES AND RURAL DISTRICTS.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Both sexes:						
Total known ages....	14,170,385	100.0	5,486,787	100.0	56,136,819	100.0
Under 15 years ..	4,233,463	29.8	1,583,551	28.8	20,307,971	36.2
15 to 64 years.....	9,484,324	67.0	3,706,976	67.6	33,897,208	59.5
65 years and over	452,598	3.2	196,260	3.6	2,431,640	4.3
Males:						
Total known ages....	7,042,879	100.0	2,726,413	100.0	28,919,733	100.0
Under 15 years ..	2,116,837	30.1	789,196	28.9	10,290,016	35.5
15 to 64 years.....	4,722,751	67.0	1,848,488	67.8	17,866,319	60.1
65 years and over	203,291	2.9	88,729	3.3	1,263,398	4.4
Females:						
Total known ages....	7,127,506	100.0	2,760,374	100.0	27,217,086	100.0
Under 15 years ..	2,116,626	29.7	794,355	28.8	10,017,955	36.8
15 to 64 years.....	4,761,573	66.8	1,858,488	67.3	16,030,889	58.9
65 years and over	249,307	3.5	107,531	3.9	1,168,242	4.3

Table 25 shows the population in productive and nonproductive age groups, for states and territories and for geographic divisions, at the census of 1900.

TABLE 25.—AGGREGATE POPULATION IN SPECIFIED AGE GROUPS, AND PER CENT THAT POPULATION IN SPECIFIED AGE GROUPS FORMS OF THE TOTAL POPULATION OF KNOWN AGES: 1900.

STATE OR TERRITORY.	All known ages.	Under 15 years.	15 to 59 years.	60 years and over.	PER CENT.		
					Under 15 years.	15 to 59 years.	60 years and over.
Continental United States.....	75,793,991	26,124,985	44,817,325	4,851,681	34.5	59.1	6.4
North Atlantic division.....	21,004,724	6,262,717	13,147,796	1,594,211	29.8	62.6	7.6
New England.....	5,576,777	1,533,222	3,540,609	502,946	27.5	63.5	9.0
Maine.....	692,824	189,333	421,630	81,861	27.3	60.9	11.8
New Hampshire.....	410,460	106,592	256,500	47,368	26.0	62.5	11.5
Vermont.....	342,778	94,877	207,303	40,598	27.7	60.5	11.8
Massachusetts.....	2,795,818	767,628	1,804,845	223,345	27.5	64.5	8.0
Rhode Island.....	427,642	120,471	275,401	31,770	28.2	64.4	7.4
Connecticut.....	907,255	254,321	574,930	78,004	28.0	63.4	8.6
Southern North Atlantic.....	15,427,947	4,729,495	9,607,187	1,091,265	30.6	62.3	7.1
New York.....	7,257,889	2,111,000	4,600,425	546,464	29.1	63.4	7.5
New Jersey.....	1,879,890	577,518	1,173,529	128,843	30.7	62.4	6.9
Pennsylvania.....	6,290,168	2,040,977	3,833,233	415,958	32.5	60.9	6.6
South Atlantic division.....	10,415,167	4,075,112	5,758,419	581,636	39.1	55.3	5.6
Northern South Atlantic.....	4,451,908	1,599,545	2,572,406	279,957	35.9	57.8	6.3
Delaware.....	184,226	57,981	112,720	13,525	31.5	61.2	7.3
Maryland.....	1,183,950	393,546	709,921	80,483	33.2	60.0	6.8
District of Columbia.....	278,423	69,615	188,873	19,935	25.0	67.8	7.2
Virginia.....	1,850,296	710,520	1,024,334	115,442	38.4	55.4	6.2
West Virginia.....	965,013	367,883	536,558	50,572	38.5	56.2	5.3
Southern South Atlantic.....	5,963,259	2,475,567	3,186,013	301,679	41.5	53.4	5.1
North Carolina.....	1,888,944	782,401	1,003,337	103,206	41.4	53.1	5.5
South Carolina.....	1,338,512	572,277	700,087	66,148	42.8	52.3	4.9
Georgia.....	2,209,974	916,862	1,183,873	109,239	41.5	53.6	4.9
Florida.....	525,829	204,027	298,716	23,086	38.8	56.8	4.4
North Central division.....	26,279,235	8,857,120	15,640,593	1,781,522	33.7	59.5	6.8
Eastern North Central.....	15,955,736	5,196,557	9,611,150	1,148,029	32.6	60.2	7.2
Ohio.....	4,150,574	1,282,471	2,543,854	324,249	30.9	61.3	7.8
Indiana.....	2,511,164	813,069	1,514,282	183,813	32.4	60.3	7.3
Illinois.....	4,810,256	1,588,685	2,921,410	300,161	33.0	60.7	6.3
Michigan.....	2,417,456	772,334	1,457,077	188,045	31.9	60.3	7.8
Wisconsin.....	2,066,286	739,998	1,174,527	151,761	35.8	56.8	7.4
Western North Central.....	10,323,499	3,660,563	6,029,443	633,493	35.5	58.4	6.1
Minnesota.....	1,747,292	637,801	1,007,583	101,908	36.5	57.7	5.8
Iowa.....	2,226,632	759,613	1,305,949	161,070	34.1	58.7	7.2
Missouri.....	3,098,259	1,082,065	1,832,974	183,220	34.9	59.2	5.9
North Dakota.....	318,405	125,492	181,137	11,776	39.4	56.9	3.7
South Dakota.....	400,833	154,565	225,509	20,759	38.6	56.2	5.2
Nebraska.....	1,064,638	388,288	619,468	56,882	36.5	58.2	5.3
Kansas.....	1,467,440	512,739	856,823	97,878	34.9	58.4	6.7
South Central division.....	14,030,794	5,694,219	7,699,370	637,205	40.6	54.7	4.7
Eastern South Central.....	7,523,255	2,995,706	4,134,316	393,233	39.8	55.0	5.2
Kentucky.....	2,140,400	809,142	1,204,630	126,628	37.8	56.5	5.7
Tennessee.....	2,012,844	783,441	1,123,947	105,456	38.9	55.8	5.3
Alabama.....	1,821,980	752,679	982,363	86,938	41.3	53.9	4.8
Mississippi.....	1,548,031	650,444	823,376	74,211	42.0	53.2	4.8
Western South Central.....	6,507,539	2,698,513	3,565,054	243,972	41.5	54.4	4.1
Louisiana.....	1,378,419	560,646	752,496	65,277	40.7	54.6	4.7
Arkansas.....	1,306,390	543,713	735,887	26,790	41.6	54.3	4.1
Indian Territory.....	389,352	167,642	210,582	11,128	43.0	54.1	2.9
Oklahoma.....	396,794	158,598	221,774	16,482	40.0	55.9	4.1
Texas.....	3,036,584	1,267,974	1,644,315	124,295	41.8	54.1	4.1
Western division.....	4,064,071	1,235,817	2,571,147	257,107	30.4	63.3	6.3
Rocky Mountain.....	1,225,300	397,383	773,405	54,512	32.4	63.2	4.4
Montana.....	242,084	71,130	162,019	8,935	29.4	66.9	3.7
Idaho.....	161,182	58,917	94,639	7,626	36.6	58.7	4.7
Wyoming.....	92,304	28,312	61,320	2,672	30.7	66.4	2.9
Colorado.....	535,150	163,147	346,786	25,217	30.5	65.0	4.5
New Mexico.....	194,580	75,877	108,641	10,062	39.0	55.8	5.2
Basin and Plateau.....	439,444	164,569	249,756	25,119	37.5	56.8	5.7
Arizona.....	121,642	40,455	75,279	5,908	33.3	61.9	4.8
Utah.....	275,917	113,350	147,219	15,348	41.1	53.3	5.6
Nevada.....	41,885	10,764	27,258	3,863	25.7	65.1	9.2
Pacific.....	2,399,327	673,865	1,547,986	117,476	28.1	64.5	7.4
Washington.....	511,844	157,899	328,857	25,088	30.8	64.3	4.9
Oregon.....	412,604	126,135	259,815	26,654	30.6	63.0	6.4
California.....	1,474,879	389,831	959,314	125,734	26.4	65.1	8.5

Considering first the results for the main geographic divisions, it appears that the maximum per cent of productive ages is found in the Western division, with the North Atlantic, North Central, South Atlantic, and South Central divisions following, in the order named. The per cents for the minor geographic divisions do not show any marked deviation from this general order.

The maximum per cent of 64.5 is found in the Pacific division and the minimum of 53.4 in the Southern South Atlantic division.

The study of the results for single states will be facilitated by Table 26, which shows the states in order of the proportion of their population who are of productive age.

TABLE 26.—STATES AND TERRITORIES IN ORDER OF THE PER CENT OF THEIR TOTAL POPULATION OF KNOWN AGES WHO ARE FROM 15 TO 59 YEARS OF AGE: 1900.

RANK.	State or territory.	Per cent.	RANK.	State or territory.	Per cent.
1	District of Columbia	67.84	26	Idaho	58.72
2	Montana	66.93	27	Iowa	58.65
3	Wyoming	66.43	28	Kansas	58.39
4	Nevada	65.08	29	Nebraska	58.19
5	California	65.04	30	Minnesota	57.67
6	Colorado	64.99	31	North Dakota	56.89
7	Massachusetts	64.55	32	Wisconsin	56.84
8	Rhode Island	64.40	33	Florida	56.81
9	Washington	64.25	34	Kentucky	56.52
10	New York	63.38	35	South Dakota	56.26
11	Connecticut	63.37	36	West Virginia	56.18
12	Oregon	62.97	37	Oklahoma	55.89
13	New Hampshire	62.49	38	New Mexico	55.83
14	New Jersey	62.43	39	Tennessee	55.79
15	Arizona	61.88	40	Virginia	55.36
16	Ohio	61.31	41	Louisiana	54.59
17	Delaware	61.19	42	Arkansas	54.33
18	Pennsylvania	60.94	43	Texas	54.15
19	Maine	60.86	44	Indian Territory	54.08
20	Illinois	60.73	45	Alabama	53.92
21	Vermont	60.48	46	Georgia	53.57
22	Indiana	60.30	47	Utah	53.36
23	Michigan	60.27	48	Mississippi	53.19
24	Maryland	59.96	49	North Carolina	53.12
25	Missouri	59.16	50	South Carolina	52.30

The states in which the proportion of the population of productive ages is greater than that for continental United States as a whole (59.10) include all of the states in the North Atlantic division, together with Delaware, Maryland, and the District of Columbia in the South Atlantic division; Ohio, Michigan, Indiana, Illinois, and Missouri in the North Central division; and all of the Western division except Idaho, Utah, and New Mexico. There is a very close agreement between this area and the area in which the median age is higher than it is for continental United States as a whole.

The distribution of the population in 10-year age groups.—For most purposes served by the study of the

age constitution of the population a classification in 10-year periods is sufficiently detailed. Tables 27 to 32 show such a grouping of the population, classified by sex, race, and nativity, for the censuses of 1900, 1890, and 1880. The number at advanced ages is so small that all those over 80 years of age have been included in one group.¹

¹It will be noted that each of these groups begins with a year which is a multiple of 10. For some purposes it will be found convenient to use a system of grouping in which the lowest age in each group is an odd multiple of 5. Such a distribution of the population for 1900 can be found in the Abstract of the Twelfth Census, pages 11 to 13.

TABLE 27.—POPULATION IN SPECIFIED AGE GROUPS, CLASSIFIED BY SEX, RACE, AND NATIVITY, FOR CONTINENTAL UNITED STATES: 1900.

SEX, RACE, NATIVITY, OR NATIVITY OF PARENTS.	Under 10 years.	10 to 19 years.	20 to 29 years.	30 to 39 years.	40 to 49 years.	50 to 59 years.	60 to 69 years.	70 to 79 years.	80 years and over.
Aggregate:									
Both sexes.....	18,044,751	15,636,323	13,864,457	10,520,820	7,701,778	5,154,001	3,094,289	1,403,698	373,874
Males.....	9,113,008	7,833,492	6,948,123	5,518,186	4,093,752	2,709,879	1,584,836	711,188	176,561
Females.....	8,931,743	7,802,831	6,916,334	5,002,634	3,608,026	2,444,122	1,509,453	692,510	197,313
Total white:									
Both sexes.....	15,558,278	13,502,427	12,098,024	9,465,019	6,957,821	4,655,198	2,815,953	1,285,817	325,607
Males.....	7,873,804	6,777,393	6,088,363	4,979,794	3,707,148	2,436,270	1,433,928	651,942	155,267
Females.....	7,684,474	6,725,034	6,009,661	4,485,225	3,250,673	2,218,928	1,382,025	633,875	170,340
Native white:									
Both sexes.....	15,358,717	12,629,116	10,081,313	7,113,770	5,151,489	3,208,803	1,860,182	844,576	227,241
Males.....	7,773,510	6,348,380	5,042,656	3,646,288	2,681,382	1,650,950	984,704	420,941	105,949
Females.....	7,585,207	6,280,736	5,038,657	3,467,482	2,470,107	1,557,853	925,478	423,635	121,292
Native white—native parents:									
Both sexes.....	10,639,101	8,895,343	7,014,251	4,958,931	3,892,158	2,756,421	1,686,010	784,850	210,266
Males.....	5,396,992	4,487,432	3,538,731	2,564,600	2,034,079	1,417,349	845,434	390,682	97,718
Females.....	5,242,109	4,407,911	3,475,520	2,394,331	1,858,079	1,339,072	840,576	394,168	112,548
Native white—foreign parents:									
Both sexes.....	4,719,616	3,733,773	3,067,062	2,154,839	1,259,331	452,382	174,172	59,726	16,975
Males.....	2,376,518	1,860,948	1,503,925	1,081,688	647,303	233,601	89,270	30,259	8,231
Females.....	2,343,098	1,872,825	1,563,137	1,073,151	612,028	218,781	84,902	29,467	8,744
Foreign white:									
Both sexes.....	199,561	873,311	2,016,711	2,351,249	1,806,332	1,446,395	955,771	441,241	98,366
Males.....	100,294	429,013	1,045,707	1,333,506	1,025,766	785,320	499,224	231,001	49,318
Females.....	99,267	444,298	971,004	1,017,743	780,566	661,075	456,547	210,240	49,048
Colored:									
Both sexes.....	2,486,473	2,133,896	1,766,433	1,055,801	743,957	498,803	278,336	117,881	48,267
Males.....	1,239,204	1,056,099	859,760	538,392	386,604	273,609	150,908	59,246	21,294
Females.....	1,247,269	1,077,797	906,673	517,409	357,353	225,194	127,428	58,635	26,973
Negro:									
Both sexes.....	2,418,413	2,074,012	1,706,651	999,294	693,600	470,163	264,358	112,802	45,890
Males.....	1,204,897	1,022,392	819,518	495,501	347,585	252,511	141,979	56,710	20,297
Females.....	1,213,516	1,051,620	887,133	503,793	346,015	217,652	122,379	56,092	25,593

TABLE 28.—PER CENT THAT POPULATION IN SPECIFIED AGE GROUPS FORMS OF THE TOTAL POPULATION OF KNOWN AGES, CLASSIFIED BY SEX, RACE, AND NATIVITY, FOR CONTINENTAL UNITED STATES: 1900.

SEX, RACE, NATIVITY, OR NATIVITY OF PARENTS.	Under 10 years.	10 to 19 years.	20 to 29 years.	30 to 39 years.	40 to 49 years.	50 to 59 years.	60 to 69 years.	70 to 79 years.	80 years and over.
Aggregate:									
Both sexes.....	23.8	20.6	18.3	13.9	10.2	6.8	4.1	1.8	0.5
Males.....	23.5	20.2	18.0	14.3	10.6	7.0	4.1	1.8	0.5
Females.....	24.1	21.0	18.6	13.5	9.7	6.6	4.1	1.9	0.5
Total white:									
Both sexes.....	23.3	20.3	18.2	14.2	10.4	7.0	4.2	1.9	0.5
Males.....	23.1	19.9	17.8	14.6	10.9	7.1	4.2	1.9	0.5
Females.....	23.6	20.7	18.5	13.8	10.0	6.8	4.2	1.9	0.5
Native white:									
Both sexes.....	27.2	22.4	17.8	12.6	9.1	5.7	3.3	1.5	0.4
Males.....	27.2	22.2	17.6	12.7	9.4	5.8	3.2	1.5	0.4
Females.....	27.2	22.5	18.1	12.5	8.9	5.6	3.3	1.5	0.4
Native white—native parents:									
Both sexes.....	26.1	21.8	17.2	12.1	9.5	6.8	4.1	1.9	0.5
Males.....	26.0	21.6	17.0	12.3	9.8	6.8	4.1	1.9	0.5
Females.....	26.1	22.0	17.3	11.9	9.2	6.7	4.2	2.0	0.6
Native white—foreign parents:									
Both sexes.....	30.2	23.9	19.6	13.8	8.0	2.9	1.1	0.4	0.1
Males.....	30.3	23.8	19.2	13.8	8.3	3.0	1.1	0.4	0.1
Females.....	30.0	24.0	20.0	13.8	7.8	2.8	1.1	0.4	0.1
Foreign white:									
Both sexes.....	1.9	8.6	19.8	23.1	17.7	14.2	9.4	4.3	1.0
Males.....	1.8	7.8	19.0	24.2	18.7	14.3	9.1	4.2	0.9
Females.....	2.1	9.5	20.7	21.7	16.6	14.1	9.7	4.5	1.1
Colored:									
Both sexes.....	27.2	23.4	19.3	11.6	8.1	5.5	3.1	1.3	0.5
Males.....	27.0	23.0	18.8	11.7	8.4	6.0	3.3	1.3	0.5
Females.....	27.4	23.7	19.9	11.4	7.9	5.0	2.8	1.3	0.6
Negro:									
Both sexes.....	27.5	23.6	19.4	11.4	7.9	5.4	3.0	1.3	0.5
Males.....	27.6	23.4	18.8	11.4	8.0	5.8	3.2	1.3	0.5
Females.....	27.4	23.8	20.0	11.4	7.8	4.9	2.8	1.3	0.6

TABLE 29.—POPULATION IN SPECIFIED AGE GROUPS, CLASSIFIED BY SEX, RACE, AND NATIVITY, FOR CONTINENTAL UNITED STATES: 1890.

SEX, RACE, OR NATIVITY.	Under 10 years.	10 to 19 years.	20 to 29 years.	30 to 39 years.	40 to 49 years.	50 to 59 years.	60 to 69 years.	70 to 79 years.	80 years and over.
Aggregate:									
Both sexes.....	15,208,691	13,591,072	11,424,453	8,444,791	5,917,158	3,998,598	2,468,144	1,094,813	312,365
Males.....	7,715,221	6,823,498	5,803,204	4,476,708	3,072,706	2,080,585	1,284,337	562,735	145,357
Females.....	7,493,470	6,767,574	5,621,249	3,968,083	2,844,452	1,918,013	1,183,807	532,078	167,008
Native white:									
Both sexes.....	12,717,836	10,749,645	8,105,541	5,771,850	3,667,099	2,388,257	1,459,413	702,555	203,303
Males.....	6,457,977	5,404,155	4,069,248	2,989,846	1,858,464	1,214,920	745,095	356,562	94,191
Females.....	6,259,859	5,345,490	4,036,293	2,782,004	1,808,635	1,173,337	714,318	345,993	109,112
Foreign white:									
Both sexes.....	334,980	917,674	1,989,613	1,812,912	1,647,769	1,234,351	789,221	300,221	70,509
Males.....	170,110	458,817	1,078,769	1,042,570	908,572	661,472	420,846	159,581	34,541
Females.....	164,870	458,857	910,844	770,342	739,197	572,879	368,375	140,690	35,968
Colored:									
Both sexes.....	2,155,875	1,923,753	1,329,299	860,029	602,290	375,990	219,510	92,037	38,553
Males.....	1,087,134	960,526	655,187	444,292	305,670	204,193	118,396	46,642	16,625
Females.....	1,068,741	963,227	674,112	415,737	296,620	171,797	101,114	45,395	21,928

TABLE 30.—PER CENT THAT POPULATION IN SPECIFIED AGE GROUPS FORMS OF THE TOTAL POPULATION OF KNOWN AGES, CLASSIFIED BY SEX, RACE, AND NATIVITY, FOR CONTINENTAL UNITED STATES: 1890.

SEX, RACE, OR NATIVITY.	Under 10 years.	10 to 19 years.	20 to 29 years.	30 to 39 years.	40 to 49 years.	50 to 59 years.	60 to 69 years.	70 to 79 years.	80 years and over.
Aggregate:									
Both sexes.....	24.3	21.8	18.3	13.5	9.5	6.4	3.9	1.8	0.5
Males.....	24.1	21.3	18.2	14.0	9.6	6.5	4.0	1.8	0.5
Females.....	24.6	22.2	18.4	13.0	9.3	6.3	3.9	1.7	0.6
Native white:									
Both sexes.....	27.8	23.5	17.7	12.6	8.0	5.2	3.2	1.5	0.5
Males.....	27.9	23.3	17.6	12.9	8.0	5.2	3.2	1.5	0.4
Females.....	27.7	23.7	17.9	12.3	8.0	5.2	3.2	1.5	0.5
Foreign white:									
Both sexes.....	3.7	10.1	21.9	19.9	18.1	13.5	8.7	3.3	0.8
Males.....	3.5	9.3	21.9	21.1	18.4	13.4	8.5	3.2	0.7
Females.....	4.0	11.0	21.9	18.5	17.7	13.8	8.8	3.4	0.9
Colored:									
Both sexes.....	28.4	25.3	17.5	11.3	7.9	5.0	2.9	1.2	0.5
Males.....	28.3	25.0	17.1	11.6	8.0	5.3	3.1	1.2	0.4
Females.....	28.4	25.6	17.9	11.1	7.9	4.6	2.7	1.2	0.6

TABLE 31.—POPULATION IN SPECIFIED AGE GROUPS, CLASSIFIED BY SEX, RACE, AND NATIVITY, FOR CONTINENTAL UNITED STATES: 1880.

SEX, RACE, OR NATIVITY.	Under 10 years.	10 to 19 years.	20 to 29 years.	30 to 39 years.	40 to 49 years.	50 to 59 years.	60 to 69 years.	70 to 79 years.	80 years and over.
Aggregate:									
Both sexes.....	13,394,176	10,726,601	9,168,393	6,369,362	4,558,256	3,111,317	1,830,095	776,507	221,076
Males.....	6,782,840	5,383,569	4,664,425	3,271,467	2,322,468	1,641,629	964,356	388,602	99,464
Females.....	6,611,336	5,343,032	4,503,968	3,097,895	2,235,788	1,469,688	865,739	387,905	121,612
Native white:									
Both sexes.....	11,057,502	8,614,930	6,744,802	4,075,850	2,708,796	1,832,606	1,142,893	523,710	142,202
Males.....	5,612,591	4,327,580	3,418,239	2,048,572	1,347,996	941,393	589,378	259,660	63,856
Females.....	5,444,911	4,287,350	3,326,563	2,027,278	1,360,800	891,213	553,515	264,050	78,346
Foreign white:									
Both sexes.....	185,068	617,251	1,199,371	1,551,896	1,343,831	950,201	491,824	175,305	44,932
Males.....	93,059	305,060	639,132	852,726	725,794	524,865	268,869	90,696	21,434
Females.....	92,009	312,191	560,239	699,170	618,037	425,336	222,955	84,609	23,498
Colored:									
Both sexes.....	2,151,606	1,494,420	1,224,220	741,616	505,629	323,510	195,378	77,492	33,942
Males.....	1,077,190	750,929	607,054	370,169	248,678	175,371	106,109	38,246	14,174
Females.....	1,074,416	743,491	617,166	371,447	256,951	153,139	89,269	39,246	19,768

TABLE 32.—PER CENT THAT POPULATION IN SPECIFIED AGE GROUPS FORMS OF THE TOTAL POPULATION OF KNOWN AGES, CLASSIFIED BY SEX, RACE, AND NATIVITY, FOR CONTINENTAL UNITED STATES: 1880.

SEX, RACE, OR NATIVITY.	Under 10 years.	10 to 19 years.	20 to 29 years.	30 to 39 years.	40 to 49 years.	50 to 59 years.	60 to 69 years.	70 to 79 years.	80 years and over.
Aggregate:									
Both sexes.....	26.7	21.4	18.3	12.7	9.1	6.2	3.7	1.5	0.4
Males.....	26.6	21.1	18.3	12.8	9.1	6.4	3.8	1.5	0.4
Females.....	26.8	21.7	18.3	12.6	9.1	5.9	3.5	1.6	0.5
Native white:									
Both sexes.....	30.0	23.4	18.3	11.1	7.3	5.0	3.1	1.4	0.4
Males.....	30.2	23.2	18.4	11.0	7.2	5.1	3.2	1.4	0.3
Females.....	29.9	23.5	18.2	11.1	7.5	4.9	3.0	1.5	0.4
Foreign white:									
Both sexes.....	2.8	9.4	18.3	23.6	20.5	14.5	7.5	2.7	0.7
Males.....	2.6	8.7	18.2	24.2	20.6	14.9	7.6	2.6	0.6
Females.....	3.0	10.3	18.4	23.0	20.4	14.0	7.3	2.8	0.8
Colored:									
Both sexes.....	31.9	22.1	18.1	11.0	7.5	4.9	2.9	1.1	0.5
Males.....	31.8	22.2	17.9	10.9	7.4	5.2	3.1	1.1	0.4
Females.....	31.9	22.1	18.3	11.0	7.6	4.6	2.7	1.2	0.6

Considering first the results for 1900, it will be seen that for each class of the population, except the foreign white, the number of persons less than 10 years old is greater than in any other decennial period. For the foreign white population the maximum number is in the group 30 to 39 years. The diminution in the numbers of the aggregate population in successive age groups has a certain regularity, as is shown in Table 33.

TABLE 33.—*Excess of population in each specified age group over population in next higher group, for continental United States: 1900.*

AGE GROUP.	Number in group.	Excess over number in next higher group.	Per cent.
0 to 9 years.....	18,044,751	2,408,428	13.4
10 to 19 years.....	15,636,323	1,771,866	11.3
20 to 29 years.....	13,864,457	3,343,637	24.2
30 to 39 years.....	10,529,820	2,819,042	26.8
40 to 49 years.....	7,701,778	2,547,777	33.1
50 to 59 years.....	5,154,001	2,059,712	39.8
60 to 69 years.....	3,094,289	1,690,591	54.8
70 to 79 years.....	1,403,698		

The per cent which the difference between the numbers in the first and second groups form of the number in the first group is somewhat larger than the corresponding per cent for the second group, but for all the other groups the rate of diminution increases as the age increases.

Some interesting results are yielded by a comparison of the distributions of the total population of various classes to the several age groups. The figures will be found in Table 28. A larger per cent of the total native white population of foreign parents than of any other class of the population is in the groups 0 to 9 years and 10 to 19 years. This is explained, of course, by the fact that the adult foreign white population has been increasing faster than the adult native population. A larger per cent of the foreign white population than of any other class is found in each of the groups above 19 years. Larger proportions of the negro population than of the native white population of native parents are less than 10 years old and between 10 and 20 years old. In the groups composed of the years of age from 20 to 79 there are relatively more native whites of native parents than negroes. The same proportion of each of these two classes of the population claims to have reached fourscore.

Nearly one-fourth of the aggregate population are less than 10 years old and over three-sevenths are less than 20. Less than one-seventh have accomplished half the possible hundred years of human life, and only 23 out of every 1,000 have passed the allotted "three-score years and ten." It is scarcely necessary to point out that these results have no bearing on the question of the average length of human life. In an increasing population, like that of the United States, the lower age groups are normally better filled than in a stationary or decreasing population.

Over one-fourth of the negro population, as well as of the native white population of native parents, are

less than 10 years old. Nearly one-half of the latter and more than one-half of the former are less than 20 years old. Among the native white population of native parents 133 in 1,000 have passed their fiftieth year, and 24 in 1,000 have passed their seventieth year. About one-tenth of the negro population are more than 50 years old, and only 18 in 1,000 are more than 70 years old. Three-tenths of the native white population of foreign parents are less than 10 years old, but only 1 in 53 of the foreign white population is in the same age period. Considerably over one-half of the native white population of foreign parents and one-tenth of the foreign white population are less than 20 years old. Among the native white population of foreign parents only 1 in 22 has passed the fiftieth year, and only 5 in 1,000 have passed the seventieth year. About three-tenths of the foreign white population are at least 50 years old, and 53 in 1,000 are at least 70 years old.

For the aggregate population there are relatively more females than males in each of the groups below 30 years, and in the group 70 to 79 years. Males are relatively more numerous in the three groups comprising the years of life from 30 to 59. In the groups 60 to 69 years and 80 years and over, the relative numbers of the two sexes are approximately equal. In the native white population of native parents, as well as in the foreign white population, females are relatively more numerous in each of the groups below 30 and above 59 years. In the period of middle life there are for each of these two classes relatively more males than females. In the native white population of foreign parents the proportions of males less than 10 years old and between 40 and 60 years old are larger than the proportions of females. There are relatively more females than males in the groups of 10 to 19 and 20 to 29 years, while the proportions of the two sexes in the groups 30 to 39, 60 to 69, 70 to 79 years, and 80 years and over are approximately equal. The excess of the relative numbers of one sex or the other is distributed for the negro population in the same way as for the native white population of foreign parents, except that among the negro population there is a larger per cent of males than of females in the group 60 to 69 years, and a larger per cent of females than of males in the group 80 years and over.

A comparison of the returns for 1900 with those for 1880 shows that for the aggregate population of both sexes there has been an increase in the proportion in each age group above 29 years, and a decrease in the proportion in each of the two groups below 20 years, while the proportion in the group 20 to 29 years has remained about constant. The same results appear when the per cents for the two sexes are considered separately, except that for males there has been a decrease in the proportion in the group 20 to 29 years, which is exactly balanced by a corresponding gain for females. This gain in the proportion of the population who are in

the more advanced age groups has been fairly constant during the two decades, for the same general results are gleaned from a comparison of the per cents for 1890 and 1900, although, of course, the differences are not so marked. It is to be noted that while those tabulated as "under 10" in 1890 included only those who reported their ages as being less than 9½ years, this group contained a proportion of the population larger than the proportion of those who reported themselves as less than 10 in 1900.

Comparison of the returns of the foreign white population in 1900, 1890, and 1880 shows that throughout the two decades there has been an increase in the per cent of that class of the population who are in the groups above 49 years. In the other age groups there has been a relative decrease during the two decades, except that the proportion of the population between 20

and 29 years of age was greater in 1900 than in 1880, and the proportion between 30 and 39 years of age was markedly greater in 1900 than in 1890. Between 1880 and 1900 the age constitution of the native white population so changed as to leave a larger or equal proportion in each of the groups above 29 years and a smaller proportion in the other groups, this decrease being most marked for children under 10 years of age. The per cents for the colored population show a marked decrease between 1880 and 1900 in the proportion in the first ten years of life, which is balanced by a slight increase for each of the other groups.

Tables 34 and 35 show the population of cities and of the rest of the country, classified by 10-year age periods. The age returns of cities were not tabulated in such a way as to make it possible to use the form of grouping that has been used in the preceding tables.

TABLE 34.—POPULATION IN SPECIFIED AGE GROUPS, CLASSIFIED BY SEX AND AS LIVING IN CITIES HAVING AT LEAST 100,000 INHABITANTS, IN CITIES HAVING BETWEEN 25,000 AND 100,000 INHABITANTS, AND IN SMALLER CITIES AND RURAL DISTRICTS, FOR CONTINENTAL UNITED STATES: 1900.

	Under 5 years.	5 to 14 years.	15 to 24 years.	25 to 34 years.	35 to 44 years.	45 to 54 years.	55 to 64 years.	65 years and over.
In cities having at least 100,000 inhabitants:								
Both sexes.....	1,505,471	2,727,992	2,730,811	2,766,216	2,058,737	1,230,616	697,944	452,598
Males.....	757,408	1,359,429	1,279,389	1,390,246	1,082,452	629,101	341,563	203,291
Females.....	748,063	1,368,563	1,451,422	1,375,970	976,285	601,515	356,381	249,307
In cities having between 25,000 and 100,000 inhabitants:								
Both sexes.....	549,319	1,034,232	1,095,020	1,050,331	781,601	493,577	286,447	196,260
Males.....	276,428	512,768	515,896	530,862	408,881	253,349	139,500	88,729
Females.....	272,891	521,464	579,124	519,469	372,720	240,228	146,947	107,531
In smaller cities and rural districts:								
Both sexes.....	7,115,838	13,192,133	11,065,274	8,268,933	6,371,609	4,673,248	3,018,144	2,431,640
Males.....	3,599,776	6,690,240	5,579,746	4,303,756	3,381,448	2,520,008	1,581,361	1,263,398
Females.....	3,516,062	6,501,893	5,485,528	3,965,177	2,990,161	2,153,240	1,436,783	1,168,242

TABLE 35.—Per cent that population in specified age groups forms of the total population of known ages, classified by sex and as living in cities having at least 100,000 inhabitants, in cities having between 25,000 and 100,000 inhabitants, and in smaller cities and rural districts, for continental United States: 1900.

	Under 5 years.	5 to 14 years.	15 to 24 years.	25 to 34 years.	35 to 44 years.	45 to 54 years.	55 to 64 years.	65 years and over.
In cities having at least 100,000 inhabitants:								
Both sexes.....	10.6	19.2	19.3	19.6	14.5	8.7	4.9	3.2
Males.....	10.8	19.3	18.1	19.7	15.4	8.9	4.9	2.9
Females.....	10.5	19.2	20.4	19.3	13.7	8.4	5.0	3.5
In cities having between 25,000 and 100,000 inhabitants:								
Both sexes.....	10.0	18.8	20.0	19.1	14.3	9.0	5.2	3.6
Males.....	10.1	18.8	18.9	19.5	15.0	9.3	5.1	3.3
Females.....	9.9	18.9	21.0	18.8	13.5	8.7	5.3	3.9
In smaller cities and rural districts:								
Both sexes.....	12.7	23.5	19.7	14.7	11.4	8.3	5.4	4.3
Males.....	12.4	23.1	19.3	14.9	11.7	8.7	5.5	4.4
Females.....	12.9	23.9	20.1	14.6	11.0	7.9	5.3	4.3

The groups under 15 years, and each of the two groups in which persons more than 55 years old are distributed, contain a smaller proportion of the urban population than of the population living in "smaller cities and rural districts." Moreover, the group 15 to 24 years contains a larger proportion of the latter class

than it does of the population living in cities having at least 100,000 inhabitants. All of the other groups are relatively larger in the cities of over 25,000 inhabitants than in the rest of the country, this excess being most marked for the group 25 to 34 years. It appears that the greater average maturity of the urban population, shown by its higher median age, is due to the relative deficiency of children and the relatively larger population in the period of early middle life.

A slightly larger proportion of the population is in the groups 15 to 24, 45 to 54, 55 to 64, and 65 years and over in cities of 25,000 to 100,000 inhabitants than in larger cities.

The difference between the per cents of the population in the group 5 to 14 years in the cities and in the rural districts is somewhat more marked for females than for males, but in the group 15 to 24 years the proportion of the male population is smaller and of the female population larger in cities than in rural districts. This may indicate that the migration of females from the country to the city takes place, on the average, at an earlier age than that of males.

Tables 36 and 37 show the distribution of the population of the states and territories and the geographic divisions in 10-year age periods.

TABLE 36.—TOTAL POPULATION IN 10-YEAR AGE PERIODS: 1900.

STATE OR TERRITORY.	All known ages.	Under 10 years.	10 to 19 years.	20 to 29 years.	30 to 39 years.	40 to 49 years.	50 to 59 years.	60 to 69 years.	70 to 79 years.	80 years and over.
Continental United States.....	75,793,991	18,044,751	15,636,323	13,864,457	10,520,820	7,701,778	5,154,001	3,094,289	1,403,698	373,874
North Atlantic division	21,004,724	4,354,534	3,796,851	4,001,660	3,300,692	2,359,836	1,596,940	994,212	470,760	129,239
New England	5,576,777	1,067,415	947,964	1,070,164	878,633	648,632	461,023	304,442	151,811	46,693
Maine	692,824	129,026	122,782	117,054	96,223	81,631	64,247	48,151	25,489	8,221
New Hampshire	410,460	73,695	67,617	73,992	60,334	49,598	37,856	27,280	15,132	4,956
Vermont	342,778	64,698	60,645	57,169	47,874	39,767	32,027	22,918	13,190	4,490
Massachusetts	2,795,818	538,298	467,197	561,792	467,146	323,649	220,391	138,594	65,355	19,396
Rhode Island	427,642	83,732	76,031	84,530	67,930	49,875	33,774	20,167	9,017	2,586
Connecticut	907,255	177,966	153,692	175,627	145,126	104,112	72,728	47,332	23,628	7,044
Southern North Atlantic	15,427,947	3,287,119	2,848,887	2,931,496	2,422,059	1,711,204	1,135,917	689,770	318,949	82,546
New York	7,257,889	1,467,212	1,284,470	1,397,801	1,178,017	830,494	553,431	341,298	161,906	43,260
New Jersey	1,879,890	403,171	341,093	354,636	302,982	210,002	139,163	83,181	36,486	9,176
Pennsylvania	6,290,168	1,416,736	1,223,324	1,179,059	941,060	670,708	443,323	265,291	120,557	30,110
South Atlantic division	10,415,167	2,827,321	2,384,986	1,871,660	1,197,487	913,348	638,729	371,291	162,767	47,578
Northern South Atlantic	4,451,908	1,100,282	969,410	809,894	564,210	430,827	297,328	177,839	80,292	21,826
Delaware	184,226	39,235	36,619	33,157	26,421	20,865	14,404	8,679	3,823	1,023
Maryland	1,183,950	267,329	246,181	216,537	163,790	124,760	84,870	51,734	22,971	5,778
District of Columbia	278,423	46,881	47,548	61,265	46,649	32,560	23,585	13,236	5,285	1,414
Virginia	1,850,296	489,683	424,339	322,359	210,290	170,114	118,069	72,440	33,326	9,676
West Virginia	955,013	257,154	214,723	176,576	117,060	82,528	56,400	31,750	14,887	3,935
Southern South Atlantic	5,963,259	1,727,039	1,415,576	1,061,766	633,277	482,521	341,401	193,452	82,475	25,752
North Carolina	1,888,944	547,076	449,222	321,461	193,238	157,793	116,948	64,066	29,954	9,186
South Carolina	1,338,512	397,914	331,783	235,361	134,970	102,191	70,145	43,815	17,392	5,441
Georgia	2,209,974	638,997	519,343	402,018	239,493	175,821	125,063	70,805	29,173	9,261
Florida	525,829	143,052	115,228	102,926	65,576	46,716	29,245	15,266	5,956	1,864
North Central division	26,279,235	6,051,138	5,433,246	4,695,358	3,745,485	2,741,497	1,831,989	1,124,598	524,145	131,779
Eastern North Central	15,955,736	3,542,279	3,221,754	2,848,448	2,330,882	1,715,084	1,150,260	716,228	342,456	88,345
Ohio	4,150,574	867,624	822,666	753,160	603,156	461,840	318,879	200,354	97,088	25,807
Indiana	2,511,164	548,247	522,232	441,141	354,995	269,618	191,118	117,052	53,570	13,191
Illinois	4,810,256	1,093,805	955,048	891,463	749,271	504,506	316,002	191,991	87,133	21,037
Michigan	2,417,456	524,717	480,758	420,598	343,471	269,977	189,890	118,018	55,202	14,825
Wisconsin	2,066,286	507,886	441,050	342,086	279,989	209,143	134,371	88,813	49,463	13,485
Western North Central	10,323,499	2,508,859	2,211,492	1,846,910	1,414,603	1,026,413	681,729	408,370	181,689	43,434
Minnesota	1,747,292	445,737	362,241	309,281	252,248	172,688	103,189	63,388	31,026	7,494
Iowa	2,226,632	520,064	467,336	397,291	305,084	224,140	151,647	99,816	49,233	12,521
Missouri	3,098,259	734,800	671,644	566,612	428,655	305,690	207,638	121,045	50,337	11,838
North Dakota	318,405	89,985	64,735	58,605	46,375	31,459	15,470	7,695	3,346	735
South Dakota	400,883	107,266	87,660	66,744	52,294	41,068	25,042	13,730	5,702	1,327
Nebraska	1,064,638	266,645	232,020	190,407	143,441	105,486	69,857	37,962	15,393	3,527
Kansas	1,467,440	344,462	325,856	257,970	186,506	145,882	108,886	65,234	26,652	5,992
South Central division	14,030,794	3,955,832	3,283,538	2,549,972	1,588,119	1,200,377	793,571	430,503	177,993	50,889
Eastern South Central	7,523,255	2,073,530	1,757,186	1,369,435	852,195	637,430	444,236	249,601	108,178	31,464
Kentucky	2,140,400	557,489	480,420	385,187	267,391	194,199	134,086	77,267	35,343	9,018
Tennessee	2,012,844	539,668	470,353	366,303	231,618	168,904	129,542	69,150	29,657	7,649
Alabama	1,821,980	523,994	433,507	332,306	189,709	154,944	100,582	55,156	23,936	7,846
Mississippi	1,548,031	452,379	372,906	285,639	163,477	119,383	80,026	48,028	19,242	6,951
Western South Central	6,507,539	1,882,302	1,526,352	1,180,537	735,924	562,947	349,335	180,902	69,815	19,425
Louisiana	1,378,419	391,261	315,119	256,367	159,758	116,007	74,630	41,589	17,648	6,040
Arkansas	1,306,390	377,232	313,394	236,477	140,239	113,665	72,423	35,943	13,536	3,481
Indian Territory	389,352	117,736	93,049	70,542	44,479	33,451	18,967	8,014	2,506	608
Oklahoma	396,794	111,276	87,566	67,802	52,505	36,725	24,438	12,022	3,691	769
Texas	3,036,584	884,797	717,224	549,349	338,943	263,099	158,877	83,334	32,434	8,527
Western division	4,064,071	855,926	737,702	745,807	689,037	486,720	292,772	173,685	68,033	14,389
Rocky Mountain	1,225,300	282,441	217,228	233,193	217,336	143,372	78,218	38,272	12,393	2,847
Montana	242,084	51,733	36,757	50,954	50,789	29,222	13,694	6,572	1,929	434
Idaho	161,182	41,935	31,647	27,761	23,362	16,681	10,170	5,421	1,825	580
Wyoming	92,304	20,469	15,616	20,898	17,335	10,285	5,029	2,005	543	124
Colorado	535,150	114,276	93,885	100,935	96,974	67,414	37,449	17,411	5,720	1,086
New Mexico	194,580	54,028	39,323	32,645	26,876	19,770	11,876	6,863	2,376	823
Basin and Plateau	439,444	116,140	91,960	76,451	60,511	42,905	26,358	16,036	7,169	1,914
Arizona	121,642	28,784	22,083	23,480	19,747	13,763	7,877	4,019	1,427	462
Utah	275,917	79,980	63,010	45,073	34,235	23,807	14,469	9,346	4,779	1,223
Nevada	41,885	7,376	6,867	7,893	6,529	5,335	4,022	2,671	963	229
Pacific	2,399,327	457,845	428,514	436,163	411,190	300,443	188,196	119,377	48,471	9,628
Washington	511,844	109,666	92,337	92,496	93,486	63,890	34,881	17,602	6,268	1,218
Oregon	412,604	84,737	81,204	72,849	65,479	50,400	31,281	17,681	7,410	1,563
California	1,474,879	262,942	254,973	270,818	252,225	186,153	122,034	84,094	34,793	6,847

TABLE 37.—PER CENT THAT POPULATION IN EACH SPECIFIED AGE GROUP FORMS OF THE TOTAL POPULATION OF KNOWN AGES: 1900.

STATE OR TERRITORY.	Under 10 years.	10 to 19 years.	20 to 29 years.	30 to 39 years.	40 to 49 years.	50 to 59 years.	60 to 69 years.	70 to 79 years.	80 years and over.
Continental United States	23.8	20.6	18.3	13.9	10.2	6.8	4.1	1.8	0.5
North Atlantic division	20.7	18.1	19.1	15.7	11.2	7.6	4.7	2.3	0.6
New England	19.1	17.0	19.2	15.8	11.6	8.3	5.5	2.7	0.8
Maine	18.6	17.7	16.9	13.9	11.8	9.3	6.9	3.7	1.2
New Hampshire	18.0	16.5	18.0	14.7	12.1	9.2	6.6	3.7	1.2
Vermont	18.9	17.7	16.7	14.0	11.6	9.3	6.7	3.8	1.3
Massachusetts	19.2	16.7	20.1	16.5	11.6	7.9	5.0	2.3	0.7
Rhode Island	19.6	17.8	19.8	15.9	11.6	7.9	4.7	2.1	0.6
Connecticut	19.6	16.9	19.4	16.0	11.5	8.0	5.2	2.6	0.8
Southern North Atlantic	21.3	18.5	19.0	15.7	11.1	7.3	4.5	2.1	0.5
New York	20.2	17.7	19.3	16.2	11.5	7.6	4.7	2.2	0.6
New Jersey	21.5	18.1	18.9	16.1	11.2	7.4	4.4	1.9	0.5
Pennsylvania	22.5	19.5	18.7	15.0	10.7	7.0	4.2	1.9	0.5
South Atlantic division	27.1	22.9	18.0	11.5	8.8	6.1	3.6	1.6	0.4
Northern South Atlantic	24.7	21.8	18.2	12.6	9.7	6.7	4.0	1.8	0.5
Delaware	21.3	19.9	18.0	14.3	11.3	7.8	4.7	2.1	0.6
Maryland	22.6	20.8	18.3	13.8	10.5	7.2	4.4	1.9	0.5
District of Columbia	16.8	17.1	22.0	16.8	11.7	8.5	4.7	1.9	0.5
Virginia	26.5	22.9	17.4	11.4	9.2	6.4	3.9	1.8	0.5
West Virginia	26.9	22.5	18.5	12.3	8.6	5.9	3.3	1.6	0.4
Southern South Atlantic	29.0	23.7	17.8	10.6	8.1	5.7	3.3	1.4	0.4
North Carolina	29.0	23.8	17.0	10.2	8.3	6.2	3.4	1.6	0.5
South Carolina	29.7	24.8	17.6	10.1	7.6	5.3	3.2	1.3	0.4
Georgia	28.9	23.5	18.2	10.8	8.0	5.7	3.2	1.3	0.4
Florida	27.2	21.9	19.6	12.5	8.9	5.6	2.9	1.1	0.3
North Central division	23.0	20.7	17.9	14.2	10.4	7.0	4.3	2.0	0.5
Eastern North Central	22.2	20.2	17.9	14.6	10.7	7.2	4.5	2.1	0.6
Ohio	20.9	19.8	18.2	14.5	11.1	7.7	4.8	2.4	0.6
Indiana	21.8	20.8	17.6	14.1	10.8	7.6	4.7	2.1	0.5
Illinois	22.7	19.9	18.5	15.6	10.5	6.6	4.0	1.8	0.4
Michigan	21.7	19.9	17.4	14.2	11.2	7.8	4.9	2.3	0.6
Wisconsin	24.6	21.3	16.6	13.5	10.1	6.5	4.3	2.4	0.7
Western North Central	24.3	21.4	17.9	13.7	9.9	6.6	4.0	1.8	0.4
Minnesota	25.5	20.7	17.7	14.5	9.9	5.9	3.6	1.8	0.4
Iowa	23.3	21.0	17.8	13.7	10.1	6.8	4.5	2.2	0.6
Missouri	23.7	21.7	18.3	13.8	9.9	6.7	3.9	1.6	0.4
North Dakota	28.3	20.3	18.4	14.6	9.9	4.9	2.4	1.0	0.2
South Dakota	26.8	21.9	16.7	13.0	10.2	6.3	3.4	1.4	0.3
Nebraska	25.0	21.8	17.9	13.5	9.9	6.6	3.6	1.4	0.3
Kansas	23.5	22.2	17.6	12.7	9.9	7.4	4.5	1.8	0.4
South Central division	28.2	23.4	18.2	11.3	8.5	5.6	3.1	1.3	0.4
Eastern South Central	27.6	23.4	18.2	11.3	8.5	5.9	3.3	1.4	0.4
Kentucky	26.0	22.4	18.0	12.5	9.1	6.8	3.6	1.7	0.4
Tennessee	23.4	18.2	11.5	8.4	6.4	3.4	1.5	0.4	0.4
Alabama	28.8	23.8	18.3	10.4	8.5	5.5	3.0	1.3	0.4
Mississippi	29.2	24.1	18.5	10.6	7.7	5.2	3.1	1.2	0.4
Western South Central	28.9	23.5	18.1	11.3	8.6	5.4	2.8	1.1	0.3
Louisiana	28.4	22.9	18.6	11.6	8.4	5.4	3.0	1.3	0.4
Arkansas	28.9	24.0	18.1	10.7	8.7	5.5	2.8	1.0	0.3
Indian Territory	30.2	23.9	18.1	11.4	8.6	4.9	2.1	0.6	0.2
Oklahoma	28.0	22.1	17.1	13.2	9.3	6.2	3.0	0.9	0.2
Texas	29.1	23.6	18.1	11.2	8.7	5.2	2.7	1.1	0.3
Western division	21.1	18.1	18.3	17.0	12.0	7.2	4.3	1.7	0.3
Rocky Mountain	23.1	17.7	19.0	17.8	11.7	6.4	3.1	1.0	0.2
Montana	21.4	15.2	21.0	21.0	12.1	5.6	2.7	0.8	0.2
Idaho	26.0	19.6	17.2	15.7	10.4	6.3	3.4	1.1	0.3
Wyoming	22.2	16.9	22.6	18.8	11.1	5.5	2.2	0.6	0.1
Colorado	21.4	17.5	18.9	18.1	12.6	7.0	3.2	1.1	0.2
New Mexico	27.8	20.2	16.8	13.8	10.2	6.1	3.5	1.2	0.4
Basin and Plateau	26.4	20.9	17.4	13.8	9.8	6.0	3.7	1.6	0.4
Arizona	23.7	18.1	19.3	16.2	11.3	6.5	3.3	1.2	0.4
Utah	29.0	22.8	16.3	12.4	8.6	5.3	3.4	1.7	0.5
Nevada	17.6	16.4	18.8	15.6	12.7	9.6	6.4	2.3	0.6
Pacific	19.1	17.9	18.2	17.1	12.5	7.8	5.0	2.0	0.4
Washington	21.4	18.1	18.1	18.3	12.5	6.8	3.4	1.2	0.2
Oregon	20.5	19.7	17.6	15.9	12.2	7.6	4.3	1.8	0.4
California	17.8	17.3	18.4	17.1	12.6	8.3	5.7	2.3	0.5

Among the main geographic divisions the South Central division has relatively the largest population under 10 years of age, and between 10 and 20 years of age. The North Atlantic division has relatively the largest population between 20 and 30 years of age, and in each of the groups 50 years and over. The Western division has relatively the largest population between 30 and 40 and between 40 and 50 years of age. The relative minima for the various age groups are as follows: Under 10, and 10 to 19, the North Atlantic division; 20 to 29, the North Central division; and each of the higher age groups, the Western division. The age constitution of the North Central division is most nearly representative of that of continental United States as a whole.

The age constitutions of the North Atlantic and the Western divisions are alike, with respect to the small proportion of the population in the first 20 years of life, but for the other age groups there are marked differences between the two divisions. These differences are clearly apparent in Table 38. It shows that over two-fifths of the population of both the North Atlantic and the Western divisions is more than 30 years old—a larger proportion than in any of the other divisions. But the population 30 years of age and over is distributed very differently for the two divisions. In the North Atlantic division a smaller per cent of this part of the population is less than 60 years of age than in any other division. In the Western division a larger

per cent of the population is between 30 and 60 years of age than in any other division; that is, the North Atlantic division contains an unusually large number of persons of advanced age, while the Western division contains an unusually large number of persons in middle life.

TABLE 38.—*Per cent that population 30 years of age and over forms of the total population of known ages, and per cent that the population between 30 and 60 years of age and 60 years of age and over forms of the population 30 years of age and over, for main geographic divisions: 1900.*

	North Atlantic division.	South Atlantic division.	North Central division.	South Central division.	Western division.
Per cent that population 30 years of age and over forms of total population of known ages.....	42.1	32.0	38.4	30.2	42.4
Per cent that population between 30 and 60 years of age forms of the population over 30 years.....	82.0	82.6	82.4	84.5	85.3
Per cent that population 60 years of age and over forms of the population over 30 years.....	18.0	17.4	17.6	15.5	14.7

It now remains to consider the distribution of the population by 10-year groups for the states and territories. Anything like an adequate discussion of these results would require so much space that it seems best to substitute for such an analysis Table 39, which shows the states and territories in the order of the proportions of their population in the various age groups.

TABLE 39.—RANK OF THE STATES AND TERRITORIES IN THE PER CENT OF THEIR POPULATION OF KNOWN AGES IN SPECIFIED AGE GROUPS: 1900.

RANK.	UNDER 10 YEARS.		10 TO 19 YEARS.		20 TO 29 YEARS.		30 TO 39 YEARS.		40 TO 49 YEARS.		RANK.
	State or territory.	Per cent.	State or territory.	Per cent.	State or territory.	Per cent.	State or territory.	Per cent.	State or territory.	Per cent.	
1	Indian Territory	30.239	South Carolina	24.787	Wyoming	22.641	Montana	20.980	Nevada	12.737	1
2	South Carolina	29.728	Mississippi	24.089	Dist. of Columbia	22.004	Wyoming	18.780	California	12.622	2
3	Mississippi	29.223	Arkansas	23.989	Montana	21.048	Washington	18.264	Colorado	12.597	3
4	Texas	29.138	Indian Territory	23.893	Massachusetts	20.094	Colorado	18.121	Washington	12.482	4
5	Utah	28.987	Alabama	23.793	Rhode Island	19.766	California	17.101	Oregon	12.215	5
6	North Carolina	28.962	North Carolina	23.782	Florida	19.574	Dist. of Columbia	16.755	New Hampshire	12.084	6
7	Georgia	28.914	Texas	23.620	Connecticut	19.358	Massachusetts	16.494	Montana	12.071	7
8	Arkansas	28.876	Georgia	23.500	Arizona	19.302	Arizona	16.234	Maine	11.782	8
9	Alabama	28.760	Tennessee	23.368	New York	19.259	New York	16.231	Dist. of Columbia	11.694	9
10	Louisiana	28.385	Virginia	22.884	New Jersey	18.865	New Jersey	16.117	Rhode Island	11.663	10
11	North Dakota	28.261	Louisiana	22.861	Colorado	18.861	Connecticut	15.996	Vermont	11.601	11
12	Oklahoma	28.044	Utah	22.857	Nevada	18.844	Rhode Island	15.885	Massachusetts	11.576	12
13	New Mexico	27.767	West Virginia	22.448	Pennsylvania	18.744	Oregon	15.870	Connecticut	11.476	13
14	Florida	27.205	Kentucky	22.445	Louisiana	18.599	Idaho	15.735	New York	11.443	14
15	West Virginia	26.927	Kansas	22.206	Illinois	18.533	Nevada	15.588	Delaware	11.326	15
16	Tennessee	26.811	Oklahoma	22.068	West Virginia	18.489	Illinois	15.577	Arizona	11.314	16
17	South Dakota	26.761	Florida	21.914	Mississippi	18.452	Pennsylvania	14.961	New Jersey	11.171	17
18	Virginia	26.465	South Dakota	21.869	North Dakota	18.406	New Hampshire	14.699	Michigan	11.168	18
19	Kentucky	26.046	Nebraska	21.793	California	18.362	North Dakota	14.565	Wyoming	11.143	19
20	Idaho	26.017	Missouri	21.678	Maryland	18.289	Ohio	14.532	Ohio	11.127	20
21	Minnesota	25.510	Wisconsin	21.345	Missouri	18.288	Minnesota	14.436	Indiana	10.737	21
22	Nebraska	25.036	Iowa	20.988	Alabama	18.239	Delaware	14.342	Pennsylvania	10.663	22
23	Wisconsin	24.580	Indiana	20.797	Tennessee	18.198	Michigan	14.208	Maryland	10.538	23
24	Missouri	23.717	Maryland	20.793	Georgia	18.191	Indiana	14.137	Illinois	10.488	24
25	Arizona	23.663	Minnesota	20.731	Ohio	18.146	Vermont	13.967	Idaho	10.349	25
26	Kansas	23.474	North Dakota	20.331	Indian Territory	18.118	Maine	13.889	South Dakota	10.246	26
27	Iowa	23.357	New Mexico	20.209	Arkansas	18.102	Missouri	13.835	New Mexico	10.160	27
28	Illinois	22.739	Michigan	19.887	Texas	18.091	Maryland	13.834	Wisconsin	10.122	28
29	Maryland	22.580	Delaware	19.877	Washington	18.071	New Mexico	13.812	Iowa	10.066	29
30	Pennsylvania	22.523	Illinois	19.855	New Hampshire	18.027	Iowa	13.702	Kansas	9.941	30
31	Wyoming	22.176	Ohio	19.820	Delaware	17.998	Wisconsin	13.550	Nebraska	9.908	31
32	Indiana	21.832	Oregon	19.681	Kentucky	17.996	Nebraska	13.473	Minnesota	9.883	32
33	Michigan	21.705	Idaho	19.634	Nebraska	17.885	Oklahoma	13.232	North Dakota	9.880	33
34	New Jersey	21.446	Pennsylvania	19.448	Iowa	17.843	South Dakota	13.046	Missouri	9.866	34
35	Washington	21.426	Arizona	18.154	Minnesota	17.701	Kansas	12.710	Oklahoma	9.255	35
36	Montana	21.370	New Jersey	18.144	Oregon	17.656	Kentucky	12.493	Virginia	9.194	36
37	Colorado	21.354	Washington	18.040	South Carolina	17.584	Florida	12.471	Kentucky	9.073	37
38	Delaware	21.297	Rhode Island	17.779	Kansas	17.580	Utah	12.408	Florida	8.884	38
39	Ohio	20.904	Maine	17.722	Indiana	17.567	West Virginia	12.257	Arkansas	8.701	39
40	Oregon	20.537	New York	17.698	Virginia	17.422	Louisiana	11.590	Texas	8.664	40
41	New York	20.215	Vermont	17.692	Michigan	17.398	Tennessee	11.507	West Virginia	8.641	41
42	Connecticut	19.616	Colorado	17.544	Idaho	17.224	Indian Territory	11.424	Utah	8.628	42
43	Rhode Island	19.580	California	17.288	Oklahoma	17.088	Virginia	11.365	Indian Territory	8.592	43
44	Massachusetts	19.254	Dist. of Columbia	17.078	North Carolina	17.018	Texas	11.162	Alabama	8.504	44
45	Vermont	18.875	Connecticut	16.940	Maine	16.895	Georgia	10.837	Louisiana	8.416	45
46	Maine	18.623	Wyoming	16.918	New Mexico	16.777	Arkansas	10.735	Tennessee	8.391	46
47	New Hampshire	17.954	Massachusetts	16.710	Vermont	16.678	Mississippi	10.560	North Carolina	8.353	47
48	California	17.828	New Hampshire	16.473	South Dakota	16.651	Alabama	10.412	Georgia	7.956	48
49	Nevada	17.610	Nevada	16.395	Wisconsin	16.555	North Carolina	10.230	Mississippi	7.712	49
50	Dist. of Columbia	16.838	Montana	15.183	Utah	16.338	South Carolina	10.084	South Carolina	7.635	50

TABLE 39.—RANK OF THE STATES AND TERRITORIES IN THE PER CENT OF THEIR POPULATION OF KNOWN AGES IN SPECIFIED AGE GROUPS: 1900—Continued.

RANK.	50 TO 59 YEARS.		60 TO 69 YEARS.		70 TO 79 YEARS.		80 YEARS AND OVER.		RANK.
	State or territory.	Per cent.	State or territory.	Per cent.	State or territory.	Per cent.	State or territory.	Per cent.	
1	Nevada.....	9.603	Maine.....	6.950	Vermont.....	3.848	Vermont.....	1.310	1
2	Vermont.....	9.343	Vermont.....	6.686	New Hampshire.....	3.687	New Hampshire.....	1.207	2
3	Maine.....	9.273	New Hampshire.....	6.646	Maine.....	3.679	Maine.....	1.187	3
4	New Hampshire.....	9.223	Nevada.....	6.377	Connecticut.....	2.604	Connecticut.....	0.777	4
5	Dist. of Columbia.....	8.471	California.....	5.702	Wisconsin.....	2.394	Massachusetts.....	0.694	5
6	California.....	8.274	Connecticut.....	5.217	California.....	2.359	Wisconsin.....	0.633	6
7	Connecticut.....	8.016	Massachusetts.....	4.957	Ohio.....	2.338	Ohio.....	0.622	7
8	Rhode Island.....	7.898	Michigan.....	4.882	Massachusetts.....	2.338	Michigan.....	0.613	8
9	Massachusetts.....	7.883	Ohio.....	4.827	Nevada.....	2.299	Rhode Island.....	0.605	9
10	Indian Territory.....	7.871	Dist. of Columbia.....	4.754	Michigan.....	2.284	New York.....	0.596	10
11	Michigan.....	7.855	Rhode Island.....	4.716	New York.....	2.231	Iowa.....	0.562	11
12	Delaware.....	7.819	Delaware.....	4.711	Iowa.....	2.211	Delaware.....	0.555	12
13	Ohio.....	7.683	New York.....	4.702	Indiana.....	2.133	Nevada.....	0.547	13
14	New York.....	7.625	Indiana.....	4.661	Rhode Island.....	2.108	Indiana.....	0.525	14
15	Indiana.....	7.611	Iowa.....	4.460	Delaware.....	2.075	Virginia.....	0.523	15
16	Oregon.....	7.581	Kansas.....	4.445	New Jersey.....	1.941	Dist. of Columbia.....	0.508	16
17	Kansas.....	7.420	New Jersey.....	4.425	Maryland.....	1.940	Maryland.....	0.488	17
18	New Jersey.....	7.403	Maryland.....	4.370	Pennsylvania.....	1.917	New Jersey.....	0.488	18
19	Maryland.....	7.168	Wisconsin.....	4.298	Dist. of Columbia.....	1.898	North Carolina.....	0.486	19
20	Pennsylvania.....	7.048	Oregon.....	4.285	Kansas.....	1.816	Pennsylvania.....	0.479	20
21	Colorado.....	6.998	Pennsylvania.....	4.217	Illinois.....	1.811	California.....	0.464	21
22	Washington.....	6.815	Illinois.....	3.991	Virginia.....	1.801	Mississippi.....	0.449	22
23	Iowa.....	6.811	Virginia.....	3.915	Oregon.....	1.796	Utah.....	0.443	23
24	Missouri.....	6.702	Missouri.....	3.907	Minnesota.....	1.776	Louisiana.....	0.438	24
25	Illinois.....	6.569	Minnesota.....	3.628	Utah.....	1.732	Illinois.....	0.437	25
26	Nebraska.....	6.562	Kentucky.....	3.610	Kentucky.....	1.651	Alabama.....	0.431	26
27	Wisconsin.....	6.503	Nebraska.....	3.566	Missouri.....	1.625	Minnesota.....	0.429	27
28	Arizona.....	6.476	New Mexico.....	3.527	North Carolina.....	1.586	New Mexico.....	0.423	28
29	Tennessee.....	6.436	Washington.....	3.439	West Virginia.....	1.559	Kentucky.....	0.421	29
30	Virginia.....	6.381	Tennessee.....	3.436	Tennessee.....	1.473	Georgia.....	0.419	30
31	Idaho.....	6.310	South Dakota.....	3.425	Nebraska.....	1.446	West Virginia.....	0.412	31
32	Kentucky.....	6.265	North Carolina.....	3.392	South Dakota.....	1.423	Kansas.....	0.408	32
33	South Dakota.....	6.248	Utah.....	3.387	Georgia.....	1.320	South Carolina.....	0.406	33
34	North Carolina.....	6.191	Idaho.....	3.363	Alabama.....	1.314	Missouri.....	0.382	34
35	Oklahoma.....	6.159	West Virginia.....	3.325	South Carolina.....	1.299	Arizona.....	0.380	35
36	New Mexico.....	6.104	Arizona.....	3.304	Louisiana.....	1.280	Tennessee.....	0.380	36
37	Minnesota.....	5.906	Colorado.....	3.253	Mississippi.....	1.243	Oregon.....	0.379	37
38	West Virginia.....	5.906	South Carolina.....	3.236	Washington.....	1.225	Florida.....	0.354	38
39	Georgia.....	5.659	Georgia.....	3.204	New Mexico.....	1.221	Nebraska.....	0.331	39
40	Montana.....	5.657	Mississippi.....	3.102	Arizona.....	1.173	South Dakota.....	0.331	40
41	Florida.....	5.562	Oklahoma.....	3.030	Florida.....	1.133	Texas.....	0.281	41
42	Arkansas.....	5.544	Alabama.....	3.027	Idaho.....	1.132	Arkansas.....	0.266	42
43	Alabama.....	5.520	Louisiana.....	3.017	Colorado.....	1.069	Washington.....	0.238	43
44	Wyoming.....	5.448	Florida.....	2.903	Texas.....	1.068	Idaho.....	0.236	44
45	Louisiana.....	5.414	Arkansas.....	2.751	North Dakota.....	1.051	North Dakota.....	0.231	45
46	South Carolina.....	5.240	Texas.....	2.744	Arkansas.....	1.036	Colorado.....	0.203	46
47	Utah.....	5.241	Montana.....	2.715	Oklahoma.....	0.930	Oklahoma.....	0.194	47
48	Texas.....	5.232	North Dakota.....	2.417	Montana.....	0.797	Montana.....	0.179	48
49	Mississippi.....	5.170	Wyoming.....	2.172	Indian Territory.....	0.644	Indian Territory.....	0.156	49
50	North Dakota.....	4.858	Indian Territory.....	2.058	Wyoming.....	0.588	Wyoming.....	0.134	50

The number and proportion of children in the population.—Perhaps the most important and interesting results of the age inquiry are the statistics of the number and proportion of children in the population. These statistics make it possible to come to some knowledge of the rate of the “natural increase” of the population of the different classes and in the same geographic areas. The proportion of children in the population is, of course, primarily a function of the birth rate,

but it is also affected by the rate of infant mortality, which varies widely among different classes of the population. The migration of children in the first few years of life is so small as to be, for most purposes, negligible.

Table 40 shows the number and proportion of children under 1 and under 5 years of age, for the censuses of 1900, 1890, and 1880.

TABLE 40.—NUMBER AND PER CENT OF THE TOTAL POPULATION UNDER 1 YEAR AND UNDER 5 YEARS OF AGE, CLASSIFIED BY SEX, RACE, AND NATIVITY, FOR CONTINENTAL UNITED STATES: 1900, 1890, AND 1880.

SEX, RACE, NATIVITY, OR NATIVITY OF PARENTS.	1900				1890				1880			
	Number.		Per cent.		Number.		Per cent.		Number.		Per cent.	
	Under 1.	Under 5.	Under 1.	Under 5.	Under 1.	Under 5.	Under 1.	Under 5.	Under 1.	Under 5.	Under 1.	Under 5.
Aggregate:												
Both sexes.....	1,916,892	9,170,628	2.5	12.1	1,566,734	7,634,693	2.6	12.2	1,447,983	6,914,516	2.9	13.8
Males.....	969,257	4,633,612	2.5	11.9	799,373	3,884,869	2.5	12.1	734,024	3,507,709	2.9	13.8
Females.....	947,635	4,537,016	2.6	12.2	767,361	3,749,824	2.5	12.3	713,959	3,406,807	2.9	13.8
Total white:												
Both sexes.....	1,665,007	7,919,952	2.5	11.9	1,359,120	6,579,648	2.5	12.0	1,218,787	5,800,151	2.8	13.4
Males.....	844,238	4,011,455	2.5	11.8	694,766	3,351,104	2.5	11.9	620,296	2,949,449	2.8	13.3
Females.....	820,769	3,908,497	2.5	12.0	664,354	3,228,544	2.5	12.1	598,491	2,850,702	2.8	13.4
Native white:												
Both sexes.....	1,661,005	7,867,583	2.9	13.9	1,354,914	6,493,019	3.0	14.2	1,212,737	5,737,780	3.3	15.6
Males.....	842,221	3,984,888	2.9	13.9	692,626	3,307,064	3.0	14.3	617,307	2,918,193	3.3	15.7
Females.....	818,784	3,882,695	2.9	13.9	662,288	3,185,955	2.9	14.1	595,430	2,819,587	3.3	15.5
Native white—native par- ents:												
Both sexes.....	1,157,534	5,464,881	2.8	13.4	941,657	4,550,682	2.7	13.3	.....	.....	.....	.....
Males.....	587,815	2,773,201	2.8	13.4	482,794	2,323,933	2.8	13.3	.....	.....	.....	.....
Females.....	569,719	2,691,680	2.8	13.4	458,863	2,226,749	2.7	13.2	.....	.....	.....	.....
Native white—foreign par- ents:												
Both sexes.....	503,471	2,402,702	3.2	15.4	413,257	1,942,337	3.6	16.9	.....	.....	.....	.....
Males.....	254,406	1,211,687	3.2	15.4	209,832	983,131	3.6	17.0	.....	.....	.....	.....
Females.....	249,065	1,191,015	3.2	15.2	203,425	959,206	3.6	16.8	.....	.....	.....	.....
Foreign white:												
Both sexes.....	4,002	52,369	(1)	0.5	4,206	86,629	(1)	1.0	6,050	62,371	(1)	0.9
Males.....	2,017	26,567	(1)	0.5	2,140	44,040	(1)	0.9	2,989	31,256	(1)	0.9
Females.....	1,985	25,802	(1)	0.5	2,066	42,589	(1)	1.0	3,061	31,115	0.1	1.0
Colored:												
Both sexes.....	251,885	1,250,676	2.8	13.7	207,614	1,055,045	2.7	13.9	229,196	1,114,365	3.4	16.5
Males.....	125,019	622,157	2.7	13.6	104,607	533,765	2.7	13.9	113,728	558,260	3.4	16.5
Females.....	126,866	628,519	2.8	13.8	103,007	521,280	2.7	13.9	115,468	556,105	3.4	16.5
Negro:												
Both sexes.....	244,510	1,215,655	2.8	13.8	.....	.....	.....	.....	.....	.....	.....	.....
Males.....	121,329	604,487	2.8	13.8	.....	.....	.....	.....	.....	.....	.....	.....
Females.....	123,181	611,168	2.8	13.8	.....	.....	.....	.....	.....	.....	.....	.....

¹ Less than one-tenth of 1 per cent.

Considering first the results for 1900, it appears that the smallest proportion of children in each of the two groups shown in the table is found in the foreign white population, and the largest proportion in the native white population of foreign parents. These figures indicate simply that the proportion of children among our immigrants is small, and that the foreign white population is contributing relatively more to the natural increase of the population than is any other class. This latter fact does not mean necessarily a relatively higher fecundity for the foreign born population, for

birth rates are not of much significance unless differences in the sex and age constitution of the various classes of the population are taken into account. The age constitution of the foreign born population is especially favorable to a high birth rate, for, as has been seen, a relatively large proportion of that class of the population is of adult age.

It will be noticed that the per cent of the negro population under 1 year of age is the same as the corresponding per cent for the native white population of native parents. This does not indicate necessarily

that the birth rates of the two classes are approximately equal, for the errors in the reports of children's ages must be taken into account, and these have been shown to be more important for the negro than for any other class of the population. Moreover, infantile death rates are usually large in the same classes of the population in which birth rates are large, a fact which tends to equalize the proportion of children in different classes of the population. In 1900, for the registration area, the ratio of the deaths of children under 1 year of age to 1,000 births was 142.8 for native white children, and 297.0 for colored children.

The proportion of the total population in each of the two age periods under consideration decreased between 1880 and 1900, the decrease being more noticeable for the colored than for the native white population. Comparisons of the figures for 1890 and 1900 would be misleading, because of the abnormal amount of overstatement of children's ages in 1890, and because those tabulated as less than 5 years old in that year included only those children who were reported as less than 4½ years old.

Table 41 shows the number and per cent of the population in these age groups for the most important countries of Europe.

TABLE 41.—*Number and per cent of the population under 1 and under 5 years of age, for European countries.*¹

COUNTRY.	Date of census.	NUMBER.			PER CENT.	
		All known ages.	Under 1.	Under 5.	Under 1.	Under 5.
Austria	1890	23,895,413	702,186	3,071,725	2.9	12.8
Belgium	1890	6,069,321	155,362	703,179	2.5	11.5
Denmark	1890	2,170,752	56,853	277,606	2.6	12.8
England and Wales	1891	29,002,525	754,533	3,553,490	2.6	12.2
France	1890	38,112,731	672,300	3,321,926	1.7	8.7
Germany	1890	49,428,470	1,428,687	6,428,836	2.9	13.0
Holland	1890	4,511,169	133,010	592,903	2.9	13.1
Hungary	1890	17,339,226	551,214	2,450,167	3.2	14.1
Ireland	1891	4,702,964	90,789	470,373	1.9	10.0
Italy	1880	28,455,948	791,699	3,439,603	2.7	12.1
Norway	1890	1,986,955	58,307	261,426	2.9	13.1
Portugal	1890	5,049,729	115,957	589,398	2.3	11.7
Scotland	1891	4,025,647	107,652	502,391	2.6	12.5
Spain	1890	17,252,472	454,880	2,098,372	2.6	12.1
Sweden	1890	4,784,981	121,835	582,605	2.5	12.2
Switzerland ..	1890	2,933,334	65,969	323,997	2.2	11.0

¹ Compiled from Bertillon, *Statistique Internationale*.

Only in France, Ireland, Portugal, and Switzerland, of the 16 countries shown in the table, is the proportion of children under 1 year of age less than in the United States. This seems to indicate that "natural increase"

is not so important a factor in the growth of the population of the United States as in the majority of European countries. It is probable, however, that in most of these countries the ages of children are reported more accurately than in the United States. It should be remembered, also, that migration of adults has operated to increase the proportion of children in most European countries and to decrease the corresponding proportion in the United States.

Table 42 shows the number and per cent of children under 1 and under 5 years of age in rural and urban districts.

TABLE 42.—*Number and per cent of the total population under 1 year and under 5 years of age, classified by sex and as living in cities having at least 100,000 inhabitants, in cities having between 25,000 and 100,000 inhabitants, and in smaller cities and rural districts, for continental United States: 1900.*

SEX OR AGE PERIOD.	IN CITIES HAVING AT LEAST 100,000 INHABITANTS.		IN CITIES HAVING BETWEEN 25,000 AND 100,000 INHABITANTS.		IN SMALLER CITIES AND RURAL DISTRICTS.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Under 1 year:						
Both sexes	317,350	2.2	116,230	2.1	1,483,312	2.7
Males	160,351	2.3	58,437	2.1	750,469	2.6
Females	156,999	2.2	57,793	2.1	732,843	2.7
Under 5 years:						
Both sexes	1,505,471	10.6	549,319	10.0	7,115,838	12.7
Males	757,408	10.8	276,428	10.1	3,599,776	12.4
Females	748,063	10.5	272,891	9.9	3,516,062	12.9

The proportion of children under 1 year of age is smaller in cities of over 100,000 inhabitants and in cities having between 25,000 and 100,000 inhabitants than the corresponding proportion in smaller cities and rural districts. The same is true for children under 5 years of age. In each case the difference is more marked for females than for males, but, that false inferences may not be drawn from this fact, it should be noted that in cities having over 25,000 inhabitants 49.8 per cent of the population are males and 50.2 per cent, females. The per cent which the number of children of each sex forms of the total number of children is substantially the same for cities and for rural districts.

Table 43 shows the number and per cent of the populations of the states and territories that are under 1 and under 5 years of age.

TABLE 43.—NUMBER AND PER CENT OF THE TOTAL POPULATION UNDER 1 AND UNDER 5 YEARS OF AGE: 1900.

STATE OR TERRITORY.	NUMBER.		PER CENT.	
	Under 1.	Under 5.	Under 1.	Under 5.
Continental United States	1,916,922	9,170,628	2.5	12.0
North Atlantic division	476,810	2,244,321	2.3	10.7
New England	117,940	554,254	2.1	9.9
Maine	13,503	65,690	1.9	9.5
New Hampshire	8,048	38,231	2.0	9.3
Vermont	6,755	32,852	2.0	9.6
Massachusetts	60,492	282,237	2.2	10.1
Rhode Island	9,368	43,452	2.2	10.2
Connecticut	19,774	91,792	2.2	10.1
South Atlantic division	358,870	1,690,067	2.3	11.0
New York	159,521	753,490	2.2	10.4
New Jersey	43,571	206,446	2.3	11.0
Pennsylvania	155,778	730,131	2.5	11.6
South Atlantic division	304,465	1,447,579	2.9	13.9
Northern South Atlantic	119,817	562,050	2.7	12.6
Delaware	4,167	19,796	2.3	10.7
Maryland	28,398	134,584	2.4	11.4
District of Columbia	4,758	23,150	1.7	8.3
Virginia	52,388	249,065	2.8	13.5
West Virginia	30,106	135,465	3.2	14.2
Southern South Atlantic	184,648	885,529	3.1	14.9
North Carolina	60,255	283,712	3.2	15.0
South Carolina	43,002	203,651	3.2	15.2
Georgia	66,327	325,473	3.0	14.7
Florida	15,064	72,693	2.9	13.8
North Central division	631,551	3,038,653	2.4	11.6
Eastern North Central	368,427	1,774,036	2.3	11.1
Ohio	89,359	431,810	2.2	10.4
Indiana	57,993	274,799	2.3	10.9
Illinois	114,392	550,065	2.4	11.4
Michigan	54,161	260,658	2.2	10.8
Wisconsin	52,522	256,734	2.5	12.4
Continental United States—Cont'd.				
North Central division—Cont'd.				
Western North Central	263,124	1,264,617	2.5	12.3
Minnesota	47,056	228,290	2.7	13.1
Iowa	54,768	263,422	2.5	11.8
Missouri	75,587	364,036	2.4	11.8
North Dakota	10,198	47,783	3.2	15.0
South Dakota	11,893	55,217	3.0	13.8
Nebraska	27,793	133,747	2.6	12.6
Kansas	35,829	172,122	2.4	11.7
South Central division	416,533	2,016,078	3.0	14.4
Eastern South Central	219,169	1,055,904	2.9	14.0
Kentucky	61,790	284,230	2.9	13.3
Tennessee	57,671	274,923	2.9	13.7
Alabama	54,401	267,300	3.0	14.7
Mississippi	45,307	229,451	2.9	14.8
Western South Central	197,364	960,174	3.0	14.8
Louisiana	39,084	199,406	2.8	14.5
Arkansas	39,281	189,811	3.0	15.4
Indian Territory	12,783	59,985	3.3	15.4
Oklahoma	12,412	58,530	3.1	14.8
Texas	93,804	452,442	3.1	14.9
Western division	87,563	423,997	2.2	10.4
Rocky Mountain	30,496	143,285	2.5	11.7
Montana	5,629	26,979	2.3	11.1
Idaho	4,653	21,560	2.9	13.4
Wyoming	2,105	10,520	2.3	11.4
Colorado	11,950	56,999	2.2	10.7
New Mexico	6,159	27,227	3.2	14.0
Basin and Plateau	13,100	60,391	3.0	13.7
Arizona	3,153	14,785	2.6	12.2
Utah	9,176	41,852	3.3	15.2
Nevada	771	3,754	1.8	9.0
Pacific	43,967	220,321	1.8	9.2
Washington	10,761	53,243	2.1	10.4
Oregon	8,069	41,141	2.0	10.0
California	25,137	125,937	1.7	8.6

While for continental United States as a whole the proportion of children under 1 is 2.5 per cent (or 1 in every 40 of the population), this proportion varies in the individual states from 3.3 per cent (or 1 in every 30) in Utah and Indian Territory to 1.7 per cent (or 1 in every 60) in California and the District of Columbia. The proportion in Pennsylvania, Wisconsin, and Iowa is the same as that for continental United States. The states in which the proportion of children under 1 is greater than it is for continental United States, as a whole, form two well-defined groups. One of these areas includes all of the states east of the Mississippi river and south of the Potomac and Ohio rivers, together with Arkansas, Louisiana, Indian Territory, Oklahoma, Texas, New Mexico, Arizona, Utah, and Idaho. The other group is composed of Wisconsin, Minnesota, North and South Dakota, and Nebraska. The relatively high proportion of children in the states of the South Atlantic and South Central divisions is to be traced to two main causes—the large negro population and the relatively small urban population of this section of the country. Those states of the North Central division in which the proportion of children is relatively large are states that combine a large foreign born population with a relatively small urban popula-

tion. New Mexico, Arizona, Utah, and Idaho, with their high proportion of children, present a contrast to the other states of the Western division.

All of the states in which less than 2.2 per cent of the population are under 1 year of age, with the exception of Ohio, Nevada, and the District of Columbia, are in New England or on the Pacific coast.

The per cent of children under 5 varies from 15.4 in Indian Territory to 8.3 in the District of Columbia. In Wisconsin, Arizona, and Iowa the per cent of children under 5 is approximately the same as in continental United States as a whole (12.0 per cent). In general the rank of the states with reference to the proportion of children under 5 is about the same as their rank with reference to the proportion of children under 1. The greatest variations are found in New Mexico, which ranks sixth among the states in the percentage of children under 1 and only fourteenth in the percentage under 5; in Mississippi, ranking fourteenth and seventh, respectively; and in West Virginia, seventh and thirteenth, respectively. The significance of these proportions as indicative of the fecundity of the population of different classes and areas should not be overestimated. Other things being equal, the number of children in the population will vary, not

only with the infantile death rate, but also with the proportion of females in the population, the proportion of those who are married, and the proportion of married women who are of child-bearing age. Accordingly, a more significant proportion is that of the number of children in the population to the number of married women of child-bearing age. The presentation of such ratios, however, lies outside the scope of the present study.

Other age groups.—Adequate discussions of the population of military age, voting age, and school age will be found in Twelfth Census, Vol. II.

The proportions of the sexes in different age groups.—The tables hitherto considered have shown the per cent of the total population of each sex who are in specified age groups. Table 44 shows the percentage that the number of each sex forms of the total population in specified groups.

TABLE 44.—Per cent of each sex in specified age, race, and nativity groups, for continental United States: 1900.

AGE PERIOD.	AGGREGATE.		NATIVE WHITE.		FOREIGN WHITE.		NEGRO.	
	Per cent male.	Per cent female.	Per cent male.	Per cent female.	Per cent male.	Per cent female.	Per cent male.	Per cent female.
All known ages.....	51.0	49.0	50.7	49.3	54.0	46.0	49.6	50.4
Under 5 years.....	50.5	49.5	50.6	49.4	50.7	49.3	49.7	50.3
Under 1 year.....	50.6	49.4	50.7	49.3	50.4	49.6	49.6	50.4
1 to 4 years.....	50.5	49.5	50.6	49.4	50.8	49.2	49.8	50.2
5 to 9 years.....	50.5	49.5	50.6	49.4	50.1	49.9	49.9	50.1
10 to 14 years.....	50.5	49.5	50.6	49.4	50.6	49.4	50.2	49.8
15 to 19 years.....	49.6	50.4	49.9	50.1	48.3	51.7	48.2	51.8
20 to 24 years.....	49.4	50.6	49.7	50.3	49.6	50.4	47.4	52.6
25 to 29 years.....	50.9	49.1	50.4	49.6	53.7	46.3	48.9	51.1
30 to 34 years.....	52.2	47.8	51.1	48.9	56.3	43.7	50.0	50.0
35 to 39 years.....	52.7	47.3	51.4	48.6	57.1	42.9	49.2	50.8
40 to 44 years.....	53.1	46.9	51.9	48.1	57.7	42.3	48.8	51.2
45 to 49 years.....	53.2	46.8	52.2	47.8	55.8	44.2	51.6	48.4
50 to 54 years.....	53.2	46.8	52.2	47.8	54.8	45.2	53.3	46.7
55 to 59 years.....	51.8	48.2	50.4	49.6	53.7	46.3	54.3	45.7
60 to 64 years.....	51.2	48.8	50.2	49.8	52.4	47.6	53.2	46.8
65 to 69 years.....	51.2	48.8	50.4	49.6	52.0	48.0	54.6	45.4
70 to 74 years.....	50.9	49.1	50.1	49.9	52.4	47.6	50.1	49.9
75 to 79 years.....	50.3	49.7	49.4	50.6	52.2	47.8	50.7	49.3
80 to 84 years.....	48.6	51.4	48.0	52.0	51.2	48.8	45.7	54.3
85 to 89 years.....	46.0	54.0	44.8	55.2	48.7	51.3	46.7	53.3
90 to 94 years.....	41.1	58.9	40.5	59.5	44.0	56.0	39.4	60.6
95 to 99 years.....	38.6	61.4	34.7	65.3	43.1	56.9	39.4	60.6
100 years and over...	36.3	63.7	34.1	65.9	45.5	54.5	34.7	65.3

The interpretation of the results shown in Table 44 is closely dependent upon the facts with reference to the proportion of the sexes at birth. The census obtains the total number of births by adding to the number of children reported as less than a year old at the date of the census the number of deaths of children who, if they had survived, would have been less than a year old at the census date. For the registration area the deaths of children under 1 year are abstracted from the state or city registration returns; for the rest of the United States they are obtained by the census enumerators. The reports show that of all births in the United States during the twelve months preceding the taking of the census of 1900, 51.2 per cent were of males. For the registration area the per cent is 51.1. There is reason to believe that this per cent is

somewhat too low. In the states of Massachusetts, Connecticut, and Rhode Island the registration of births is fairly complete, and what omissions there are may be supposed to be divided proportionately between the sexes. The proportions that registered male births made of the total number of births in these states for the twelve months preceding the census were as follows: Massachusetts, 51.2; Connecticut, 51.7; Rhode Island, 51.7. The corresponding per cents as returned by the census were: Massachusetts, 50.7; Connecticut, 51.0; Rhode Island, 51.0. It is probable that the true per cent for the United States is nearer 52 than 51. Table 44 shows that in the native white and foreign white populations this excess of males over females continues for the first three quinquennial age groups, although the excess of males in each of these groups, as well as among children less than a year old, is smaller than the excess of males in the total number of births. In the negro population, on the other hand, there is for children under 1 and in each of the first two quinquennial age groups an excess of females over males. The explanation of these facts is found in the different infantile death rates of the sexes and of the different classes of the population. Of the total number of deaths of children less than a year old among the white population of the registration area 56.3 per cent were of males and 43.7 per cent were of females. The corresponding per cents for the colored population are 53.8 and 46.2. The death rate per 1,000 for white children under 1 in the registration area was 143.4, while the corresponding rate for colored children was 297. It is probable that on account of the overstatement of the ages of children under 1 these death rates are too high, the exaggeration being greater for colored children than for white. However, the fact that there are more females than males less than a year old in the colored population must be attributed to its excessive infantile death rate.

Table 45 shows the death rates of the sexes in different age groups for the registration area. These rates can not be supposed to be accurate, but for the present purpose it is sufficient if they show the relative death rates of the two sexes with approximate accuracy.

TABLE 45.—Deaths at specified ages per 1,000 population of same ages, for the registration area: 1900.

AGE PERIOD.	AGGREGATE.		NATIVE WHITE.		FOREIGN WHITE.		COLORED.	
	Males.	Fe-males.	Males.	Fe-males.	Males.	Fe-males.	Males.	Fe-males.
Under 1 year.....	183.7	146.8	175.9	139.8	161.2	136.9	403.9	339.7
Under 5 years.....	56.7	47.5	54.5	45.4	36.2	33.2	127.2	110.2
5 to 14 years.....	4.4	4.2	4.2	4.0	3.9	3.6	9.2	10.2
15 to 24 years.....	6.7	6.1	6.2	5.7	6.1	5.1	17.2	14.4
25 to 34 years.....	9.5	8.5	9.3	8.2	8.4	7.9	18.2	15.6
35 to 44 years.....	12.4	10.5	11.7	9.7	12.3	10.8	21.5	20.4
45 to 64 years.....	24.1	20.1	20.1	16.8	28.0	23.4	38.6	34.6
65 years and over...	91.1	82.6	88.1	78.0	93.1	87.6	119.8	100.3

It is evident that the facts as to death rates shown in Table 45 can not explain the facts shown in Table 44. According to Table 45 the death rate of the aggregate population in every age group is higher for males than for females. This seeming inconsistency is due to the fact that the registration area is not fairly representative of continental United States as a whole, since it contains a disproportionately large urban population. In the registration area 59 per cent of the population are in cities of over 8,000 population, and 49 per cent are in cities of over 100,000 population. The corresponding per cents for continental United States are 31 and 19. Table 46 shows the death rates of the two sexes, classified by age periods, for the population of the rural parts of registration states (including all towns and cities of less than 8,000 population).

TABLE 46.—Deaths at specified ages per 1,000 population of same ages for the rural parts of registration states: 1900.

AGE PERIOD.	AGGREGATE.		NATIVE WHITE.		FOREIGN WHITE.		COLORED.	
	Males.	Fe-males.	Males.	Fe-males.	Males.	Fe-males.	Males.	Fe-males.
Under 1 year.....	131.0	103.6	129.5	102.3	106.8	121.9	246.9	191.4
Under 5 years.....	37.6	31.2	37.3	30.8	26.9	27.3	70.6	63.6
5 to 14 years.....	3.2	3.2	3.1	3.1	4.1	3.3	5.6	6.4
15 to 24 years.....	5.2	5.3	5.1	5.3	5.2	5.0	6.0	9.5
25 to 34 years.....	6.4	7.3	6.6	7.4	5.4	6.9	8.4	10.0
35 to 44 years.....	7.8	8.2	7.7	8.0	8.3	8.7	9.6	13.5
45 to 64 years.....	16.0	15.4	15.1	14.8	18.3	17.0	20.6	22.5
65 years and over...	80.0	73.6	80.1	72.5	79.7	77.4	79.8	68.9

Table 46 shows that in the rural districts, throughout the period of middle life, the mortality of males is less than that of females.

This throws light on the results shown in Table 44. In the native white population there are more males than females in each group below 15 years, but owing to the higher death rate of males in the period of childhood and youth the groups of 15 to 19 and 20 to 24 years show an excess of females. During the period of middle life the higher death rate of females in the rural districts seems to overbalance the higher urban death rate of males, for each of the age groups between 25 and 75 years contains more males than females. In the period of old age the mortality of males is greater than that of females in both cities and rural districts, so that the age groups composed of the years of life above 75 show a marked excess of females, this excess increasing as age advances.

In the colored population the higher death rate of females begins at an earlier age than in the native white population, so that the group 10 to 14 years in the negro population (which constitutes 96.2 per cent of the colored population of continental United States) contains more males than females. With the

exception of the group 30 to 34 years, in which the numbers of the two sexes are approximately equal, each group between 15 and 45 years contains more females than males. In view of the fact that the negro population is preeminently a rural population (only 12.9 per cent of the negro population of continental United States living in cities of over 25,000 inhabitants, as against 27.7 per cent for the white population), it seems difficult to explain this excess of females in early middle life. All the registration states, with the exception of the District of Columbia, are in the North Atlantic or North Central divisions, and it is quite possible that the small colored population in these states is not fairly representative of the large negro population of the South. However, examination of the returns for the nonregistration area does not clear up the difficulty, for in each quinquennial age group between 10 and 50 years more deaths of females than of males are reported for the colored population.¹ These returns are admittedly incomplete, but there is no *a priori* reason to suspect that the error is a biased one. It may be thought that the death rates of 1900 are not fairly representative of those of past years, which have been the factors in shaping the present age and sex constitution of the negro population. An examination of the returns for the censuses of 1890 and 1880, however, shows that there has been no marked change in the age and sex distribution of the mortality of the colored population.² The population and mortality returns seem in this particular to be irreconcilable. It is possible that during the period of middle life the deaths of females are reported more accurately than those of males.

The proportion of the sexes in the foreign white population in different age groups depends on the relative numbers of the two sexes among the immigrants of various ages, as well as upon their relative death rates. In view of this fact it is remarkable that the results presented for the foreign white population shown in Table 44 show so small a deviation from those for the native white population. The excess of males in the total foreign white population is greater than in the total native white population, but this greater excess is confined to that part of the foreign white population which is in the age periods comprising the years of life above 25. The majority of the foreign white population, as of the native white population, in the groups 15 to 19 and 20 to 24 years are females.

The sex distribution of the population in different age groups for cities and rural districts is shown in Table 47.

¹ Twelfth Census, Vol. IV, pages 62 and 63.

² Eleventh Census, Vital Statistics, Part I, pages 15 to 20; Tenth Census, Vital Statistics, Part I, page xxxii.

TABLE 47.—Per cent distribution, by sex, of population of specified age in cities having at least 100,000 inhabitants, in cities having between 25,000 and 100,000 inhabitants, and in smaller cities and rural districts, for continental United States: 1900.

AGE PERIOD.	IN CITIES HAVING AT LEAST 100,000 INHABITANTS.		IN CITIES HAVING BETWEEN 25,000 AND 100,000 INHABITANTS.		IN SMALLER CITIES AND RURAL DISTRICTS.	
	Per cent male.	Per cent female.	Per cent male.	Per cent female.	Per cent male.	Per cent female.
All known ages	49.7	50.3	49.7	50.3	51.5	48.5
Under 5 years	50.3	49.7	50.3	49.7	50.6	49.4
Under 1 year	50.5	49.5	50.3	49.7	50.6	49.4
1 to 4 years	50.3	49.7	50.3	49.7	50.6	49.4
5 to 9 years	50.1	49.9	50.0	50.0	50.6	49.4
10 to 14 years	49.6	50.4	49.2	50.8	50.8	49.2
15 to 19 years	47.3	52.7	47.3	52.7	50.4	49.6
20 to 24 years	46.5	53.5	47.0	53.0	50.5	49.5
25 to 29 years	49.1	50.9	49.6	50.4	51.7	48.3
30 to 34 years	51.6	48.4	51.6	48.4	52.5	47.5
35 to 44 years	52.6	47.4	52.3	47.7	53.1	46.9
45 to 54 years	51.1	48.9	51.3	48.7	53.9	46.1
55 to 64 years	48.9	51.1	48.7	51.3	52.4	47.6
65 years and over	44.9	55.1	45.2	54.8	52.0	48.0

In every group of the age classification used in Table 47 there are, in "smaller cities and rural districts," more males than females. If the period of 65 years and over, however, could be subdivided into smaller groups, it is quite certain that more females than males would be found in the groups comprising the more advanced ages. In cities there are more females than males in each of the groups of age between 10 and 30 years and in each of the groups for 55 years and over. This difference between the constitution of the population of cities and rural districts is due partly to differences in the numbers and ages of male and female migrants from the rural districts to the cities, and partly to differences in rural and urban death rates. Table 48 shows the death rates of the population in specified age groups for the registration cities not in registration states. These cities are selected because they are more characteristically urban than the cities in registration states. All places of more than 8,000 inhabitants in which sufficiently accurate records of deaths are kept are "registration cities," but 70 per cent of the population of such of these cities

as are not in registration states are in cities of more than 100,000 inhabitants.

TABLE 48.—Deaths at specified ages per 1,000 of the aggregate population of same ages, classified by sex, for registration cities not in registration states: 1900.

SEX.	Under 1 year.	Under 5 years.	5 to 14 years.	15 to 24 years.	25 to 34 years.	35 to 44 years.	45 to 64 years.	65 years and over.
Males.....	194.0	60.4	5.2	8.1	10.8	14.4	28.9	103.8
Females.....	156.0	50.8	4.9	6.9	9.1	11.4	21.6	88.7

Upon a comparison of the rates shown in Table 48 with those shown in Table 46 for the aggregate population of the rural parts of registration states, it appears that for each age group the death rate is higher in cities than in rural districts. Moreover, in cities the mortality of males is greater than that of females for every age group, while in the rural districts the death rate of females, as already mentioned, is higher than that of males for the years of life between 15 and 45. The higher death rate of males accounts, in part at least, for the fact that in the urban population between the ages of 10 and 20 there are more females than males. However, the differences between the death rates of the two sexes for the age groups comprising the years of life between 5 and 35 are so slight that this excess of females suggests that women between 15 and 25 years old migrate to the cities in greater numbers than do men of corresponding ages. Our statistics do not afford any absolute proof of this theory. In Europe, however, it is indisputably a fact.¹

Notwithstanding the fact that the differences between the mortality of males and females in cities are greater for the period 35 to 64 years than for the period 5 to 34 years, males are more numerous than females in the groups 30 to 34, 35 to 44, and 45 to 54 years. This fact can be explained only on the supposition that more males than females among persons of adult age migrate from the country to the city.

¹ Bücher, "Ueber die Verteilung der beiden Geschlechter auf der Erde," Allgemeines Statistisches Archiv, Vol. II, page 369 ff.

APPENDIX A.

THE ADJUSTMENT OF THE RETURNS.

For most of the purposes to which census age returns are put, groups of five, ten, or more years are sufficiently detailed, and the discussion of the subject of errors has shown that such groups, when formed with due attention to the nature of the errors in the returns, may be supposed to represent the actual age constitution of the population with reasonable accuracy. It may happen, however, that for some purposes—such as the construction of a life table—it becomes necessary to know the number of persons in a given year of life. In such cases the errors in the returns stand in the way of satisfactory results. For this reason attempts have been made in various countries to modify the census returns in such a way as to eliminate as many of these errors as possible.

In some ways the problem is similar to that with which actuaries have to deal in the construction of life tables based on the experience of life insurance companies. On the other hand, however, there is a distinct difference between the two problems. The errors in the unadjusted life tables are accidental errors arising from paucity of observations; that is, they would be eliminated if the number of observations were indefinitely large. The errors in the census age tables are systematic errors and take certain definite forms. The formulas employed in the adjustment of life tables are usually based on the theory of errors, and consequently can not be applied to the census returns, for until known errors are eliminated the law of error is not applicable. This point is mentioned, because in several instances formulas based on the theory of errors have been used in the adjustment of census age returns.¹

The thing to be desired in an adjustment of the age returns is a smooth series that will adhere as closely as possible to the facts. The aim should be to eliminate irregularities caused by misstatement of age, while retaining those corresponding to actual irregularities in the age constitution of the population. An accurate selection of this kind is, of course, impossible, but it should be noted that (in a graphic representation of the age returns) real irregularities would usually take the form of flexures covering a

period of several terms of the series, while the irregularities caused by errors are more likely to appear as angular deflections, corresponding to abnormal values of single terms. It has already been shown that groups of terms are more liable to be accurate than are single terms, and especially is this the case when the groups are so constituted that the probability of the equality of positive and negative errors is a maximum. To obtain the closest agreement with the facts such groups should contain as few terms as considerations of accuracy will permit. The discussion of age groups has shown that the quinquennial groups in which the lowest year is a multiple of 5 fit these conditions as closely as any others. Hence, in the present adjustment, it has been thought best to retain the different quinquennial groups intact, and simply to redistribute the numbers at the various ages within each group. The fact that the groups containing multiples of 10 are somewhat larger, relatively, than groups containing odd multiples of 5 leads to some irregularities in the adjusted series, but it has been thought that these are more than counterbalanced by the advantages of the agreement of corresponding groups of terms of the adjusted and unadjusted series. The method of adjustment used has been adapted from that used in the English census. Intermediate values were interpolated by the method of differences in the series $\log Q_5, \log Q_{10}, \log Q_{15}, \log Q_{20}$, etc., in which Q_x represents the number reported at and above the age x . After the adjusted numbers at and above each age had been found in this manner, the number at each age was obtained by subtraction. A separate interpolation was made for each sex of the native white population of native parents, the native white population of foreign parents, the foreign white population, and the colored population. The results for both sexes, for the native white population, and for the aggregate population, were then obtained by the proper additions. For the groups 5 to 9, 90 to 94, and 95 to 99 Newton's coefficients were used, while Bessel's coefficients were used for all the other groups. In both formulas five orders of differences were used. The ages under 5 were not included in this adjustment, because the mortality in the first few years of life is so high that an adjustment of these years based on the progression of the Q_x series taken at quinquennial intervals would distort the facts.

¹For a list of such adjustments, as well as a general treatment of the subject under discussion, see an article by the present writer on "The adjustment of census age returns," in the Western Reserve University Bulletin, November, 1902.

Adjusted ages of the population classified by sex, race,

AGE PERIOD.		AGGREGATE.			NATIVE WHITE.		
		Total.	Males.	Females.	Total.	Males.	Females.
1	All ages	75,994,575	38,816,448	37,178,127	56,595,379	28,686,450	27,908,929
2	Under 1 year ¹	1,916,892	969,257	947,635	1,661,005	842,221	818,784
3	1 to 4 years	7,253,736	3,664,355	3,589,381	6,206,578	3,142,667	3,063,911
4	1 year ¹	1,768,078	893,263	874,815	1,521,536	770,755	750,781
5	2 years ¹	1,830,332	925,260	905,072	1,563,745	791,936	771,809
6	3 years ¹	1,824,312	920,335	903,977	1,559,898	789,395	770,503
7	4 years ¹	1,831,014	925,497	905,517	1,561,399	790,581	770,818
8	5 to 9 years	8,874,123	4,479,396	4,394,727	7,491,134	3,788,622	3,702,512
9	5 years	1,801,004	900,536	900,468	1,562,759	785,654	777,105
10	6 years	1,804,145	907,644	896,501	1,533,296	774,078	759,218
11	7 years	1,787,019	904,428	882,591	1,500,896	760,355	740,541
12	8 years	1,758,605	891,745	866,860	1,464,882	743,012	721,870
13	9 years	1,723,350	875,043	848,307	1,429,301	725,523	703,778
14	10 to 14 years	8,080,234	4,083,041	3,997,193	6,647,673	3,361,671	3,286,002
15	10 years	1,675,884	849,484	826,400	1,394,324	706,763	687,561
16	11 years	1,643,425	832,569	810,856	1,360,026	689,006	671,020
17	12 years	1,616,163	816,514	799,649	1,329,469	672,196	657,273
18	13 years	1,588,650	800,542	788,108	1,298,853	655,497	643,356
19	14 years	1,556,112	783,932	772,180	1,265,001	638,209	626,792
20	15 to 19 years	7,556,089	3,750,451	3,805,638	5,981,443	2,986,709	2,994,734
21	15 years	1,549,056	767,207	781,849	1,257,352	623,788	633,564
22	16 years	1,504,562	756,343	748,219	1,203,864	609,758	594,106
23	17 years	1,513,199	750,706	762,493	1,197,184	597,578	599,606
24	18 years	1,517,980	744,287	773,693	1,187,923	585,083	602,840
25	19 years	1,471,292	731,908	739,384	1,135,120	570,502	564,618
26	20 to 24 years	7,335,016	3,624,580	3,710,436	5,415,562	2,689,295	2,726,267
27	20 years	1,501,839	738,742	763,097	1,132,818	561,816	571,002
28	21 years	1,491,644	733,535	758,109	1,111,113	550,172	560,941
29	22 years	1,468,846	725,881	742,965	1,083,884	538,268	545,616
30	23 years	1,444,638	717,318	727,320	1,056,072	525,937	530,135
31	24 years	1,428,049	709,104	718,945	1,031,675	513,102	518,573
32	25 to 29 years	6,529,441	3,323,543	3,205,898	4,665,751	2,353,361	2,312,390
33	25 years	1,387,321	698,628	688,693	1,003,748	504,134	499,614
34	26 years	1,348,325	682,798	665,527	969,453	487,971	481,482
35	27 years	1,305,117	664,643	640,474	932,411	470,384	462,027
36	28 years	1,262,931	646,676	616,255	896,290	453,177	443,113
37	29 years	1,225,747	630,798	594,949	863,849	437,695	426,154
38	30 to 34 years	5,556,039	2,901,321	2,654,718	3,830,761	1,958,744	1,872,017
39	30 years	1,173,097	608,377	564,720	823,881	419,790	404,091
40	31 years	1,138,972	592,734	546,238	792,289	404,609	387,680
41	32 years	1,111,668	580,734	530,934	765,886	391,685	374,201
42	33 years	1,083,540	568,074	515,466	739,496	378,711	360,785
43	34 years	1,048,762	551,402	497,360	709,209	363,949	345,260
44	35 to 39 years	4,964,781	2,616,865	2,347,916	3,283,009	1,687,544	1,595,465
45	35 years	1,041,370	547,278	494,092	689,564	353,503	336,061
46	36 years	1,018,521	536,066	482,455	671,343	344,529	326,814
47	37 years	994,692	524,390	470,302	658,101	338,345	319,756
48	38 years	969,033	511,637	457,396	643,021	331,132	311,889
49	39 years	941,165	497,494	443,671	620,980	320,035	300,945
50	40 to 44 years	4,247,166	2,255,916	1,991,250	2,886,031	1,497,876	1,388,155
51	40 years	915,642	485,420	430,222	620,813	321,155	299,658
52	41 years	883,678	469,071	414,607	601,661	311,820	289,841
53	42 years	851,008	452,939	398,069	579,073	301,492	277,581
54	43 years	813,558	431,731	381,827	551,522	285,978	265,544
55	44 years	783,280	416,755	366,525	532,962	277,431	255,531
56	45 to 49 years	3,454,612	1,837,836	1,616,776	2,265,458	1,183,506	1,081,952
57	45 years	739,734	392,966	346,768	495,692	258,174	237,518
58	46 years	712,045	378,609	333,536	472,324	246,414	225,910
59	47 years	690,538	367,159	323,379	451,790	235,791	215,999
60	48 years	670,526	357,471	313,055	433,855	227,432	206,423
61	49 years	641,769	341,731	300,038	411,797	215,695	196,102
62	50 to 54 years	2,942,829	1,564,622	1,378,207	1,830,589	955,956	874,633
63	50 years	642,418	343,466	298,952	402,988	212,083	190,905
64	51 years	618,416	330,080	288,336	385,101	202,200	182,901
65	52 years	588,278	312,669	275,609	365,735	190,877	174,858
66	53 years	568,816	295,774	263,042	346,846	179,964	166,882
67	54 years	534,901	282,633	252,268	329,919	170,832	159,087
68	55 to 59 years	2,211,172	1,145,257	1,065,915	1,378,214	694,994	683,220
69	55 years	486,976	254,523	232,453	305,646	155,708	149,938
70	56 years	461,194	239,725	221,469	289,128	146,281	142,847
71	57 years	442,372	228,936	213,436	275,537	138,808	136,729
72	58 years	422,941	218,002	204,939	261,856	131,406	130,450
73	59 years	397,689	204,071	193,618	246,047	122,791	123,256

¹ Not adjusted.

and nativity, for Continental United States: 1900.

NATIVE WHITE—NATIVE PARENTS.			NATIVE WHITE—FOREIGN PARENTS.			FOREIGN WHITE.			COLORED.			
Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	
40,949,362	20,849,847	20,099,515	15,646,017	7,836,603	7,809,414	10,213,817	5,515,285	4,698,532	9,185,379	4,614,713	4,570,666	1
1,157,534	587,815	569,719	503,471	254,406	249,065	4,002	2,017	1,985	251,885	125,019	126,866	2
4,307,347	2,185,386	2,121,961	1,899,231	957,281	941,950	48,367	24,550	23,817	998,791	497,138	501,653	3
1,067,983	541,787	526,196	453,553	228,968	224,585	7,645	3,945	3,700	238,897	118,563	120,334	4
1,087,237	551,514	535,723	476,508	240,422	236,086	10,637	5,413	5,224	255,950	127,911	128,039	5
1,074,499	544,814	529,685	485,399	244,581	240,818	13,562	6,777	6,785	250,852	124,163	126,689	6
1,077,628	547,271	530,357	483,771	243,310	240,461	16,523	8,415	8,108	253,092	126,501	126,591	7
5,174,220	2,623,791	2,550,429	2,316,914	1,164,831	1,152,083	147,192	73,727	73,465	1,235,797	617,047	618,750	8
1,077,152	541,404	535,748	485,607	244,250	241,357	9,568	3,194	6,374	228,677	111,688	116,989	9
1,056,756	534,691	522,065	476,540	239,387	237,153	22,313	10,683	11,630	248,536	122,883	125,653	10
1,035,242	526,054	509,188	465,654	231,301	231,353	31,741	16,194	15,547	254,382	127,879	126,503	11
1,013,373	516,150	497,223	451,509	226,862	224,647	38,893	20,267	18,626	254,830	128,466	126,364	12
991,697	505,492	486,205	437,604	220,031	217,573	44,677	23,389	21,288	249,372	126,131	123,241	13
4,660,390	2,364,797	2,295,593	1,987,283	996,874	990,409	311,565	157,632	153,933	1,120,996	563,738	557,258	14
971,278	493,991	477,287	423,046	212,772	210,274	46,771	24,131	22,640	234,789	118,590	116,199	15
950,634	483,276	467,378	409,372	205,730	203,642	53,885	27,654	26,231	229,514	115,909	113,605	16
932,233	472,967	459,266	397,236	199,229	198,007	62,471	31,595	30,876	224,223	112,723	111,500	17
913,582	462,637	450,945	385,271	192,860	192,411	70,888	35,465	35,423	218,909	109,580	109,329	18
892,643	451,926	440,717	372,358	186,283	186,075	77,550	38,787	38,763	213,561	106,936	106,625	19
4,234,953	2,122,635	2,112,318	1,746,490	864,074	882,416	561,746	271,381	290,365	1,012,900	492,361	520,539	20
893,330	442,401	450,929	364,022	181,387	182,635	86,754	42,288	44,466	204,950	101,131	103,819	21*
848,229	433,163	415,066	355,635	176,595	179,040	98,255	47,517	50,738	202,443	99,068	103,375	22
847,488	424,657	422,831	349,696	172,921	176,775	112,863	54,487	58,376	203,152	98,641	104,511	23
844,680	415,991	428,689	343,243	169,092	174,151	126,914	61,226	65,688	203,143	97,978	105,165	24
801,226	406,423	394,803	333,894	164,079	169,815	136,960	65,863	71,097	199,212	95,543	103,669	25
3,805,609	1,903,864	1,901,745	1,609,953	785,431	824,522	919,482	456,186	463,296	999,972	479,099	520,873	26
802,231	400,061	402,170	330,587	161,755	168,832	159,684	77,107	82,577	209,337	99,819	109,518	27
783,431	390,946	392,485	327,682	159,226	168,456	173,524	84,640	88,884	207,007	98,723	108,284	28
790,983	380,765	380,218	322,901	157,503	165,398	184,786	91,699	93,087	200,176	95,914	104,262	29
788,816	370,631	368,185	317,256	155,306	161,950	195,197	98,297	96,900	193,369	93,084	100,285	30
720,148	361,461	358,687	311,527	151,641	159,886	206,291	104,443	101,848	190,083	91,559	98,524	31
3,208,642	1,634,867	1,573,775	1,457,109	718,494	738,615	1,097,229	589,521	507,708	766,461	380,661	385,800	32
690,693	349,425	341,268	313,055	154,709	158,346	209,240	109,174	100,066	174,333	85,320	89,013	33
665,909	338,223	327,686	303,544	149,748	153,796	215,147	101,046	101,101	163,725	80,781	82,944	34
640,885	326,680	314,205	291,526	143,704	147,822	220,208	118,434	101,774	152,498	75,825	76,673	35
616,747	315,455	301,292	279,543	137,722	141,821	224,508	122,290	102,218	142,133	71,209	70,924	36
594,408	305,084	289,324	269,441	132,611	136,830	228,126	125,577	102,549	133,772	67,526	66,246	37
2,659,360	1,372,529	1,286,831	1,171,401	586,215	585,186	1,173,683	660,702	512,981	551,595	281,875	269,720	38
570,388	293,394	276,994	253,493	126,396	127,097	229,014	127,490	101,524	120,202	61,097	59,105	39
549,505	283,260	266,245	242,784	121,349	121,435	233,181	130,170	103,011	113,502	57,955	55,547	40
531,373	274,305	257,068	234,613	117,380	117,133	235,603	132,733	102,870	110,179	56,316	53,863	41
513,653	265,512	248,141	225,843	113,199	112,644	237,183	134,685	102,498	106,861	54,678	52,183	42
494,441	256,058	238,383	214,768	107,891	106,877	238,702	135,624	103,078	100,861	51,829	49,022	43
2,299,571	1,192,071	1,107,500	983,438	495,473	487,965	1,177,566	672,804	504,762	504,206	256,517	247,689	44
479,973	248,401	231,572	209,591	105,102	104,489	244,738	139,089	105,649	107,068	54,686	52,382	45
468,197	242,492	225,705	203,146	102,037	101,109	242,395	138,127	104,268	104,783	53,410	51,373	46
460,438	238,724	221,714	197,663	98,621	98,042	235,728	134,756	100,972	100,863	51,289	49,574	47
451,968	234,544	217,424	191,053	96,588	94,465	229,015	131,284	97,731	96,997	49,221	47,776	48
438,995	227,910	211,085	181,985	92,125	89,660	225,690	129,648	96,142	94,495	47,911	46,584	49
2,104,551	1,096,825	1,007,726	781,480	401,051	380,429	966,112	557,300	408,812	395,023	200,740	194,283	50
441,543	229,554	211,989	179,270	91,601	87,669	209,161	121,112	88,049	85,668	43,153	42,515	51
432,701	225,224	207,477	168,960	86,596	82,364	200,344	116,034	84,310	81,673	41,217	40,456	52
421,441	219,709	201,732	157,632	81,783	75,849	192,979	111,298	81,681	78,956	40,149	38,807	53
409,734	213,887	195,847	141,788	72,091	69,697	185,809	106,715	79,094	76,227	39,038	37,189	54
399,132	208,451	190,681	133,830	63,980	64,850	177,819	102,141	75,678	72,499	37,183	35,316	55
1,787,607	937,254	850,353	477,851	246,252	231,599	840,220	468,466	371,754	348,934	185,864	163,070	56
378,463	197,848	180,615	117,229	60,326	56,903	172,499	97,348	75,151	71,543	37,444	34,099	57
366,901	192,124	174,777	105,423	54,290	51,133	169,203	94,806	74,397	74,397	33,229	33,229	58
357,381	187,126	170,255	94,409	48,665	45,744	168,592	93,950	74,642	70,156	37,418	32,738	59
349,255	183,785	165,470	84,600	43,647	40,953	167,281	92,742	74,539	69,390	37,297	32,093	60
335,607	176,371	159,236	76,190	39,324	36,866	162,645	89,620	73,025	67,327	36,416	30,911	61
1,551,811	811,724	740,087	278,778	144,232	134,546	803,392	440,079	363,313	308,848	168,587	140,261	62
335,182	177,009	158,173	67,806	35,074	32,732	169,269	93,322	75,947	70,161	38,061	32,100	63
324,138	170,653	153,485	60,963	31,547	29,416	166,410	91,451	74,959	66,905	36,429	30,476	64
310,564	162,323	148,231	55,181	28,554	26,627	161,058	88,199	72,859	61,485	33,593	27,892	65
296,922	154,140	142,782	49,924	25,824	24,100	155,446	84,833	70,613	56,524	30,977	25,547	66
285,015	147,599	137,416	44,904	23,233	21,671	151,209	82,274	68,935	53,773	29,527	24,246	67
1,204,610	605,625	598,985	173,604	89,369	84,235	643,003	345,241	297,762	189,955	105,022	84,933	68
264,339	134,342	129,997	41,307	21,366	19,941	138,689	75,172	63,517	42,641	23,643	18,998	69
251,446	126,834	124,612	37,682	19,447	18,235	132,864	71,685	61,179	39,202	21,759	17,443	70
241,045	121,065	119,980	34,492	17,743	16,749	128,876	68,143	59,733	37,959	20,985	16,974	71
230,341	115,242	115,099	31,515	16,164	15,351	124,473	66,437	58,036	36,612	20,159	16,453	72
217,439	108,142	109,297	28,608	14,649	13,959	118,101	62,804	55,297	33,541	18,476	15,065	73

Adjusted ages of the population classified by sex, race, and

	AGE PERIOD.	AGGREGATE.			NATIVE WHITE.		
		Total.	Males.	Females.	Total.	Males.	Females.
74	60 to 64 years	1,791,363	917,167	874,196	1,075,627	539,430	536,197
75	60 years.....	394,987	202,574	192,413	238,772	119,605	119,167
76	61 years.....	377,581	193,201	184,380	226,970	113,711	113,259
77	62 years.....	359,074	183,863	175,211	215,425	108,073	107,352
78	63 years.....	339,772	173,977	165,795	203,528	102,206	101,322
79	64 years.....	319,949	163,552	156,397	190,932	95,835	95,097
80	65 to 69 years	1,302,926	667,669	635,257	784,555	395,274	389,281
81	65 years.....	297,371	152,476	144,895	179,678	90,469	89,209
82	66 years.....	278,317	142,719	135,598	168,051	84,681	83,370
83	67 years.....	260,859	133,707	127,152	156,943	79,109	77,834
84	68 years.....	242,935	124,424	118,511	145,741	73,451	72,290
85	69 years.....	223,444	114,343	109,101	134,142	67,564	66,578
86	70 to 74 years	883,841	449,609	434,232	525,772	263,590	262,182
87	70 years.....	208,972	106,573	102,399	123,818	62,297	61,521
88	71 years.....	192,464	98,040	94,424	114,053	57,296	56,757
89	72 years.....	176,855	89,995	86,860	105,232	52,764	52,468
90	73 years.....	161,032	81,794	79,238	96,219	48,118	48,101
91	74 years.....	144,518	73,207	71,311	86,450	43,115	43,335
92	75 to 79 years	519,857	261,579	258,278	318,804	157,351	161,453
93	75 years.....	130,161	65,906	64,255	79,214	39,324	39,890
94	76 years.....	116,409	58,824	57,585	71,269	35,312	35,957
95	77 years.....	103,504	52,050	51,454	63,548	31,338	32,210
96	78 years.....	91,123	45,634	45,489	56,148	27,613	28,535
97	79 years.....	78,660	39,165	39,495	48,625	23,764	24,861
98	80 to 84 years	251,512	122,273	129,239	155,642	74,697	80,945
99	80 years.....	68,649	33,846	34,803	42,095	20,522	21,573
100	81 years.....	58,650	28,700	29,950	36,118	17,472	18,646
101	82 years.....	49,431	23,987	25,444	30,742	14,722	16,020
102	83 years.....	41,080	19,741	21,339	25,702	12,168	13,534
103	84 years.....	33,702	15,999	17,703	20,985	9,813	11,172
104	85 to 89 years	88,600	40,742	47,858	55,860	25,036	30,824
105	85 years.....	27,184	12,805	14,379	17,271	7,922	9,349
106	86 years.....	21,544	10,007	11,537	13,699	6,193	7,506
107	87 years.....	16,811	7,671	9,140	10,623	4,731	5,892
108	88 years.....	13,022	5,833	7,189	8,119	3,554	4,565
109	89 years.....	10,039	4,426	5,613	6,148	2,636	3,512
110	90 to 94 years	23,992	9,858	14,134	12,998	5,268	7,730
111	90 years.....	7,537	3,267	4,270	4,551	1,902	2,649
112	91 years.....	5,722	2,415	3,307	3,299	1,348	1,951
113	92 years.....	4,408	1,795	2,613	2,352	940	1,412
114	93 years.....	3,478	1,347	2,131	1,651	643	1,008
115	94 years.....	2,847	1,034	1,813	1,145	435	710
116	95 to 99 years	6,266	2,417	3,849	2,295	796	1,499
117	95 years.....	2,029	763	1,266	833	300	533
118	96 years.....	1,558	587	971	582	204	378
119	97 years.....	1,183	451	732	404	137	267
120	98 years.....	878	313	565	281	92	189
121	99 years.....	618	268	350	195	63	132
122	100 years and over.....	3,504	1,271	2,233	446	152	294

nativity, for Continental United States: 1900—Continued.

NATIVE WHITE—NATIVE PARENTS.			NATIVE WHITE—FOREIGN PARENTS.			FOREIGN WHITE.			COLORED.			
Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	
965,900	483,454	482,446	109,727	55,976	53,751	545,031	285,783	259,248	170,705	91,954	78,751	74
212,323	106,130	106,193	26,449	13,475	12,974	118,260	62,454	55,806	37,955	20,515	17,440	75
202,912	101,460	101,452	24,058	12,251	11,807	114,009	59,924	54,085	36,602	19,566	17,036	76
193,653	96,961	96,692	21,772	11,112	10,660	109,476	57,360	52,116	34,173	18,430	15,743	77
183,861	92,151	91,710	19,667	10,055	9,612	104,452	54,576	49,876	31,792	17,195	14,597	78
173,151	86,752	86,399	17,781	9,083	8,698	98,834	51,469	47,365	30,183	16,248	13,935	79
720,110	361,980	358,130	64,445	33,294	31,151	410,740	213,441	197,299	107,631	58,954	48,677	80
163,763	82,268	81,495	15,915	8,201	7,714	92,552	48,031	44,521	25,141	13,976	11,165	81
153,300	77,319	76,481	14,251	7,362	6,889	87,271	45,278	41,993	22,995	12,760	10,235	82
144,199	72,520	71,679	12,744	6,589	6,155	82,466	42,868	39,598	21,450	11,730	9,720	83
134,358	67,564	66,794	11,383	5,887	5,496	77,255	40,222	37,033	19,939	10,751	9,188	84
123,990	62,309	61,681	10,152	5,255	4,897	71,196	37,042	34,154	18,106	9,737	8,369	85
488,649	244,574	244,075	37,123	19,016	18,107	282,325	148,068	134,257	75,744	37,951	37,793	86
114,841	57,656	57,185	8,977	4,641	4,336	66,941	35,052	31,889	18,213	9,224	8,989	87
105,963	53,130	52,833	8,090	4,166	3,924	61,713	32,365	29,348	16,698	8,379	8,319	88
97,841	48,983	48,858	7,391	3,781	3,610	56,583	29,701	26,882	15,040	7,530	7,510	89
89,494	44,707	44,787	6,725	3,411	3,314	51,295	26,927	24,368	13,518	6,749	6,769	90
80,510	40,098	40,412	5,940	3,017	2,923	45,793	24,023	21,770	12,275	6,069	6,206	91
296,201	146,108	150,093	22,603	11,243	11,360	158,916	82,933	75,983	42,137	21,295	20,842	92
73,636	36,540	37,096	5,578	2,784	2,794	40,886	21,394	19,492	10,061	5,188	4,873	93
66,239	32,810	33,429	5,030	2,502	2,528	36,072	18,854	17,218	9,068	4,658	4,410	94
59,036	29,093	29,943	4,512	2,245	2,267	31,548	16,473	15,075	8,408	4,239	4,169	95
52,149	25,625	26,524	3,999	1,988	2,011	27,241	14,192	13,049	7,734	3,829	3,905	96
45,141	22,040	23,101	3,484	1,724	1,760	23,169	12,020	11,149	6,866	3,381	3,485	97
144,314	69,087	75,227	11,328	5,610	5,718	69,075	35,390	33,685	26,795	12,186	14,609	98
39,086	19,026	20,060	3,009	1,496	1,513	19,559	10,102	9,457	6,995	3,222	3,773	99
33,513	16,177	17,336	2,605	1,295	1,310	16,338	8,413	7,925	6,194	2,815	3,379	100
28,496	13,609	14,887	2,246	1,113	1,133	13,443	6,882	6,561	5,246	2,383	2,863	101
23,803	11,231	12,572	1,899	937	962	10,932	5,556	5,376	4,446	2,017	2,429	102
19,416	9,044	10,372	1,569	769	800	8,803	4,437	4,366	3,914	1,749	2,165	103
51,542	22,992	28,550	4,318	2,044	2,274	22,167	10,802	11,365	10,573	4,904	5,669	104
15,950	7,275	8,675	1,321	647	674	7,059	3,534	3,525	2,854	1,349	1,505	105
12,643	5,686	6,957	1,056	507	549	5,461	2,689	2,772	2,384	1,125	1,259	106
9,802	4,348	5,454	821	383	438	4,130	1,990	2,140	2,058	950	1,108	107
7,486	3,266	4,220	633	288	345	3,122	1,474	1,648	1,781	805	976	108
5,661	2,417	3,244	487	219	268	2,395	1,115	1,280	1,496	675	821	109
11,940	4,815	7,125	1,058	453	605	5,321	2,339	2,982	5,673	2,251	3,422	110
4,184	1,740	2,444	367	162	205	1,796	819	977	1,190	546	644	111
3,032	1,233	1,799	267	115	152	1,327	590	737	1,096	477	619	112
2,159	858	1,301	193	82	111	975	423	552	1,081	432	649	113
1,515	587	928	136	56	80	707	299	408	1,120	405	715	114
1,050	397	653	95	38	57	516	208	308	1,186	391	795	115
2,077	695	1,382	218	101	117	1,412	609	803	2,559	1,012	1,547	116
756	268	488	77	32	45	430	181	249	766	282	484	117
527	179	348	55	25	30	336	143	193	640	240	400	118
365	118	247	39	19	20	266	115	151	513	199	314	119
254	78	176	27	14	13	212	94	118	385	162	223	120
175	52	123	20	11	9	168	76	92	255	129	126	121
393	129	264	53	23	30	391	178	213	2,667	941	1,726	122

APPENDIX B.

BIBLIOGRAPHY OF DISCUSSIONS OF AGE STATISTICS.

In addition to representative modern discussions of age statistics, a few older studies of primarily historical importance have been included in the following list of references. Valuable discussions will also be found in Census Reports, especially those of Germany, Switzerland, Hungary, Italy, India, and New South Wales.

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